"In an investigation of the population statistics of the island several questions should be borne in mind: (1) What changes in the racial character of the population have taken place since the occupation of the island by the Japanese? (2) Is there any substantial difference between native and Japanese living conditions as reflected in vital statistics? (3) What changes in the occupational distribution of the population have taken place? (4) What is the condition of the aboriginal tribes? Finally, the investigation of Taiwan's population may furnish an important clue to the riddle of population trends of China. As is well known a census of the modern type has never been undertaken in China, and current vital statistics are non-existent. All information we have is based on more or less bold guesses and on a few samples which represent only a drop in the sea of the Chinese population. However, here in Taiwan we have a quite compact Chinese population of more than five million with a normal age and sex composition, agricultural in character, living according to the customs of their fathers and forefathers. The first census was taken in Taiwan in 1905, fifteen years earlier than in Japan proper. Since that time we have the results of several censuses and current vital statistics of satisfactory value. Demographers should not pass over these results, and yet, so far as is known to the author, they have been neglected (just as were the results of investigations in the Liaotung peninsula) in Chinese population studies. [23]

The estimated total population for 1898 was 2,613,400, but this is only a guess for at that time the government did not control the whole area of the island. The following fi-

figures will bear out this point.

	Births	Deaths	Rates per 1000 Births	Deaths
1898	31,688	20,305	13.7	8.8
1900	57,564	48,981	21.0	17.8
1902	75,750	76,306	26.1	26.3
1904	99,395	94,636	33.5	31.9

If these figures are correct, the birth rate in Taiwan increased 2 1/2 times and the death rate four times in six years, an absolutely inconceivable situation. But the tendency is quite clear; the government was more and more successful in the enforcement of rules of registration. Later on we shall see the same phenomenon in agricultural statistics.

The results of the censuses of the population, are as follows:

	Absolute figures (thousands)	Index 1905=100
1905	3,039.8	100
1915	3,479.9	114
1920	3,655.3	120
1925	3,933.4	131

	Absolute figures (thousands)	Index 1905=100
1930*	4,592.5	151
1935*	5,212.4	171
1936†*	5,452.0	180
1937†*	5,609.0	185
1938†*	5,747.0	189

*Including aborigines, who were not registered in preceeding censuses because they had not yet been pacified. This makes the later figures appear about 100,000 larger than they would be on the same basis.
†Official estimates.

From this table it appears that the population of Taiwan in thrity-two years increased by eighty-five per cent. Such a rate is high, for over the same period the population of Japan proper increased by only fifty per cent.

The pressure of population on resources in Taiwan is evidently very great. Population density in 1937 was about 157 per sq. km., i.e. greater than of Italy or Germany and [24] as great as that of Japan proper in 1925. Since the rate of natural growth of the Chinese in Taiwan is considerably higher than that of the population in Japan, the time is not far distant when the density of population in Taiwan will equal the density in Japan Proper."

4:Grajdanzev--29 S-4 (no date) 1942 Formosans
116, 161, 511

"Native and Japanese Standards of Living as Reflected in Vital Statistics

The high absolute and relative rates of growth of population in Taiwan are extremely interesting and may be illustrated in the following way: in 1937 245,000 children were born in Taiwan—one-third the number of children born in Great Britain and one-fifth of those born in Germany, although the total population of Taiwan is but one-seventh and one-twelfth respectively as great as that of those countries. In other words Taiwan's future population will be much larger than the present figure suggests. If every year about 100,000 persons reach an age of eighteen now, in twenty years their number will almost double. If the islanders are to retain the same standard of life, agricultural and industrial production should increase at the same rate as population and if they are to raise this standard agricultural and industrial production should grow at an even greater rate. This rapid growth of population—more than 130,000 additional mouths each year—raises grave issues for the authorities. As we shall see later, this problem has not been solved and indeed is unlikely to be solved under conditions existing on the island."

4:Grajdanzev--43 S-4 (no date) 1942 Formosans
116. 161, 178, 241

"The average increase of area under cultivation by 7,000 ko each year must be compared with the annual increase of the population of 130,000 to 140,000 persons; for each ko increase in cultivated land there is an increase of twenty persons. It is thus quite evident that the increase of cultivated area is lagging behind the increase of population. The same idea may be expressed in another way: since 1904 the population of Taiwan increased 1.92 times. whereas the cultivated area increased only 1.37 times.

Improvement in the situation may be brought about (1) by cultivating areas now uncultivated; (2) by turning areas now producing one crop into double-crop areas chiefly through irrigation; (3) by increasing yields and substituting crops bringing high income per unit of area for crops bringing low income; (4) by shifting the population from agriculture to industry and importing foodstuffs to feed the growing population. Let us now consider these possibilities in turn, with the exception of the fourth, which will be examined later."

4: Grajdanzev--44 . S-4 (no date) 1942 Formosans
116, 161, 433, 464, 471

"Two thousand yen per ko (2.4 acres) is an apalling [sic] price where the daily wages of a worker are about one yen per day, and it prevents the landless from having a chance to become owners of land. However, the phrase 'population pressure' is not used here in the Malthusian sense. The question is not one of food--the island produces twice as much as the islanders consume--but of employment. Openings in industry are few; independent industrial enterprise is almost impossible because a plant worth a few hundred or thousand yen cannot compete with a modern factory. The only occupation left is that of the farmer--a customary occupation for the majority of the islanders. The rise in land values is a symptom of the growing difficulty of finding employment, and not of a growing scarcity of food."

6: Kirchhoff--30-31 U-4 (no date) 1895 Formosans
116, 161, 177.63 China
636.63

The whole of Formosa, belongs only to the Chinese "sphere of interest," together with the islands off its coast. In reality only the western side is ruled by the Chinese, the north and, recently, a narrow strip of land along the eastern coast. Within this ruled region the Chinese Government is said to have carried out a census of the inhabitants, but [31] to have treated the results as an official secret. The assertion, made for a long time past, that Formosa has 3 million inhabitants, has thus practically no basis whatever. If this estimate were correct, it would enable one to conclude that the density of population attained the not inconsiderable figure of 90.

9: Yamasaki--221 [7] N-5 (1896-1897) 1900 Formosans
116, 161

In 1897 the first census of Taiwan showed a population of 2,584,365 inhabitants, excepting the savage natives.

20: Alvarez--248 [3] (no date) 1927 Formosans
116, 161

"According to the official census of 1919, the population of the island was 3, 341, 217, the greater part of them living in the western plains, which comprise about the third part of the whole surface of the island."

31: Hofmann--605-606 N-3 (1909) 1912 Formosans
116, 161, 241

The agricultural population [606] contrasts favorably with the migrant workers in the cities. Their agricultural methods are well organized, although it is true that they are based on experience rather than theory. A further testimony to the industry and diligence of the Chinese is the fact that in this field the Japanese cannot compete with them.... There are no Japanese farms on Formosa, although there is still enough land for this purpose. The island is thickly populated; there is an average of 86 inhabitants per square kilometer.

37: Steere--317 S-3 (1873-74?) 1875 Formosans
116, 161, 563

"The Chinese population of Formosa is estimated generally at about three million, but this seems to be rather an under estimation of the real population. The most of them are from the province of Fuh-kien, which lies opposite, and many of them are descendants of the rebels, who took possession of the island with Koxinga. They are considered a turbulent race, and a rebellion happens as often as once in ten years, at least. They almost universally bind the feet of their female children, and child murder is not at all rare among them. At Tamsni, two little girls were picked up from the little jetty belonging to Dodd & Co., one of them still living, and it is not rare at all to find them wrapped in straw lying along the banks of the river, where they have been left by the tide. There are also quite a number of people called Hak-kas, who are supposed to come from the province of Canton. They speak a different language and live in separate villages, and they allow the feet of their females to grow to their normal size. The Hak-kas are especially numerous toward the north end of the island, though they are found nearly the whole length, occupying generally the lands near the mountains and most exposed to the savages."

37: Steere--318 S-3 (1873-74?) 1875 Formosans
116, 131, 311, 161, 563, 157

"The Pescadores are a group of low flat islands between Formosa and the mainland. They seem to be composed almost entirely of basaltic rock, which is partly columnar in many of the cliffs. There is iron ore found upon Fisher's island. The rock of the island is barely covered with soil, but nearly their whole surface is cultivated during the south-west monsoon, in sweet potatoes, pea-nuts, and millet. The inhabitants are estimated at eighty thousand, and there are said to be thirty towns and villages. The town of Makang, which is the largest, probably has twelve or fifteen thousand inhabitants. Its harbor is good, but the entrance is intricate. The Chinese live generally in houses made of coral rock that is frequently cut into blocks. They are descendants of the Fuh-kienese, and are all fishermen. They have considerable trade with the mainland and with Formosa in dried fish and in hogs, which are fattened upon pea-nuts, and in pea-nut oil. The feet of all the women are small, though their hard and laborious life must make this custom troublesome enough. I saw one small-footed woman ploughing and driving the buffalo, though the wind was blowing a gale at the time, so that we could hardly stand before it. The islanders are a rough and uncivilized race, accustomed to hardships, and the charges of piracy and wrecking made against them, are, without doubt, true. They are the boldest of fisherman, and during the warm monsoon, are almost amphibious. I was there in January, when the weather was cold and the wind and sea high, but when they found that I wished coral and shells, they procured me large quantities living. The islands make a good place for shelter for Chinese junks

45:Stanford U. S-4, 5 1956 AD 1 Formosa
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Annex "A," Subparagraph 1c,
Sociological Background

POPULATION OF FORMOSA

I. INTRODUCTION

161 The population of Formosa [Taiwan] in 1955 is estimated[1] at about 10,400,000, including about 7,500,000 Formosa-born Chinese (hereafter Formosan Chinese, as distinguished from Mainland Chinese), about 2,000,000 Chinese civilians from the Mainland, 700,000 military personnel and troops, and about 200,000 non-Chinese tribes of aborigines. The latter are composed of seven linguistically distinct tribes believed to have come originally from Malaya, the Philippines, New Guinea, and Kwangtung Province. The Formosan Chinese are descendants of Mainland Chinese who migrated from Fukien and Kwangtung provinces chiefly during the eighteenth and nineteenth centuries.

II. ETHNIC GROUPS

162 563 The population of Formosa may be divided into two distinct ethnic groups: the aborigines and the Chinese.

A. Aborigines

Prior to 1600, Formosa was sparsely populated by so-called aborigines, referred to by the Japanese as "savages" and by the Chinese government as "mountain tribes" or "brethren of the mountains," whose habitations ranged

[Footnote 1 next page.]

000 upon them fled to the mountainous interior.

B. Formosan Chinese

161 The Formosan Chinese are often called "Taiwanese," a term which refers to those who were born in Formosa prior to 1945. When the surviving general of the Ming Dynasty, Cheng Ch'eng-kung, who is known to the Western world as Koxinga, took refuge in Formosa in 1662, the Chinese population was estimated at 100,000. During the eighteenth and nineteenth centuries, immigrants from Fukien and Kwangtung province increased the population to more than 2,600,000 by 1898, according to figures published at that time by the Japanese government on the island. In 1953, the population was estimated at about 7,500,000. There are about five Fukienese descendants to every one of Cantonese descent. The Fukienese are thought to be clever and gentle and the Cantonese are thought to be aggressive and industrious.

C. Mainland Chinese

The influx of Mainlanders to the island following the evacuation of the Central Government to Taipei in 1949 brought the Mainland Chinese population on Formosa to about 2,000,00[2]

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2. Mutual Security Agency Mission to China, Economic Development on Formosa, 1951-52, Taipei, 1953, p. 9.

161 They have come from various provinces on the Mainland and are composed of government employees, professionals, and technical personnel.

III. PATTERN OF SETTLEMENT AND DENSITY

311 In the early days of settlement, Chinese immigrants first cultivated the fertile land and plains of the coastal areas from which the aborigines had been driven. The inhospitable and inaccessible nature of the mountains protected the aborigines from continued exploitation but also served to contain them.

About ninety per cent of the total population now occupies the coastal lowlands; the remainder, among them the aborigines, is scattered over the central mountain area which comprises two-thirds of the island's total area. The people from Kwangtung, arriving later than the people from Fukien, settled in the foothills and cultivated rice terraces. The Fukienese inhabit most of the lowland and urban areas.

161 The average density of the population is 610 persons per square mile.[3] However, 2,500 persons must share the amount of food produced on one square mile of cultivated land (nutrition density).

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3. Statistical Abstract of the Republic of China, Executive Yuan, Directorate-General of Budgets, Accounts and Statistics, Taipei, 1955, p. 28.

45:Stanford U. S-4, 5 1956 AD 1 Formosa
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Table 1. Population Density and Nutrition Density of Selected Countries
(per square mile)

Country	Year	Population Density	Nutrition Density
Formosa	1953 *	610	2,500
Japan	1950	586	3,534
Belgium	1948	727	2,200
United States	1949	51	188

* Calculated from Statistical Abstract of the Republic of China, 1955, p. 28; Natural Resources Section, General Headquarters, Supreme Commander for Allied Powers, as quoted in Norman Wycoff, "An Outline of Demographic Conditions and Prospects on Taiwan," Chinese-American Economic Cooperation, Vol. I, No. 5, May 1952, p. 44.

Stanford U. S-4, 5 1956 Atl Formosa Atl

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[Facing p. 71]

161 The accompanying figure shows that the most heavily populated areas lie in the Taipei Basin and in the plains of Taichung and Tainan. In 1953, Taipei City had a density of 3,600 persons per square mile; the density for Kaohsiung was 1,100. The least-populated hsien of Taitung has only 12 persons per square mile.[4]

IV. COMPOSITION OF THE POPULATION

A. Age Composition

162 Formosa's average population is young. As of 1953, population under the age of fifteen comprised 42.2 per cent of the total and those under forty years of age comprised 82 per cent of the total.[5] Old people have never made up a large share of the population. Improved medical facilities in the past decades have reduced infant mortality and helped to maintain the youthfulness of the population. The birth rate has been constantly high. The changes in age composition for the last twenty years are shown in Table 2. An age structure of this sort is costly to society; there are few to support many -- as was the case in 1953, when each group of one hundred persons between the ages of fifteen and sixty-four, the most productive working years, had to support eighty others, although not necessarily all of the hundred were employed.[6]

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4. Ibid.

5. United Nations, Statistical Office, Demographic Yearbook, 1954, New York, 1954, p. 127.

6. Ibid.

369 40 per cent of the district's agricultural
596 production; in 1937, they accounted for only
563 17 per cent of the total yield.[1]

The aborigines in the mountainous regions of Formosa make a living from slash-and-burn agriculture and hunting. Some of the aboriginal tribes (the Bunun, the Tsou, the Paiwan, and the Yami) follow the patriarchal, extended family pattern. Others (the Atayal and Saisett) have a nuclear family organization -- each member of the family fulfills a definite role fixed by tribal custom. Aborigine women ordinarily do more farm work than Chinese women. Until recently few children from native tribes attended school, and until recently few aborigines ventured outside their tribal regions.

B. The Urban Family

369 The population of Formosa has been
• 161 increasing rapidly. The rate of increase is greatest in the urban areas. Each of Formosa's four largest cities -- Taipei, Kaoshiung,

1. Arthur F. Raper, Rural Taiwan - Problem and Promise, Taipei, 1953, p. 120.

369 Tainan, and Tiachung -- has more than
• 161 doubled in size since 1937.[2] The cities of Keelung, Hsinchu, and Hualien have grown almost as rapidly. The rapid increase in urban population is traceable, in part, to the number of young Formosans who have deserted the rural areas for further education and more profitable economic opportunities.

369 The patterns of living of the urban population differ in many ways from those of the rural population. The size of the average household is smaller. The houses themselves are small, overcrowded, and usually contain no more than two generations, parents and children. Crime in urban areas has increased substantially.[3] On the other hand, educational facilities in the cities have improved. The people of Formosa are becoming more aware of the importance of education. Urban families send their children to vocational schools or high schools whenever it is financially possible. During the past fifteen years, the rate of industrial expansion has been rapid, although not rapid enough to provide
008 work for the fast-growing population. The

2. Arthur F. Raper, et. al., Urban and Industrial Taiwan - Crowded and Resourceful, Taipei, 1954, p. 2.

3. The number of urban crimes reported
(continued next page)

to interfere with the election campaign of the candidates, obstruct the casting and counting of votes, and hamper the performance of duties by those in charge of the election affairs."[14] Generally speaking, the elections were conducted in an orderly manner. No report of election "irregularities" has appeared in newspapers. Mr. Hsü Fu-lin, acting chairman of the Democratic Socialist Party, in answer to the query of an American newspaper correspondent, said that there had been no discrimination against the candidates of his party during the election campaign. A British newspaperman observed that "if Formosan elections cannot be regarded as free by the standards of the West, they have nevertheless been considerably more democratic in character than anything yet known in the Far East outside Hong Kong. The secret ballot prevails, but no candidate fundamentally opposed to the regime would have the temerity to stand for election."[15]

[61] The Civil Affairs Department of Taiwan Provincial Government reported the population of Taiwan Province to be 8,438,016 at the end of 1953. This number included 741,016 foreign-born (Mainlanders) but excluded military

14. A General Report Made by Governor O.K. Yui before the Fifth Session of the Provisional Provincial Assembly of Taiwan on Dec. 14, 1954, Taipei, Dept. of Information, Taiwan Provincial Government, 1954, p. 31.

15. H. Maclear Bate, Report from Formosa, London, Eyre & Spottiswoode, 1953, p. 23.

Annex "A," Subparagraph 3a",
Economic Background

LAND REFORM

I. LAND TENURE BEFORE REFORM

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162 For many years the most crucial problem confronting Formosa, as is the case with most countries on the continent of Asia, has been that of too many farmers and not enough land. There has been an enormous growth of population in the past half-century. For lack of industrial development, over 51.93 per cent of the total population in Formosa is engaged in farming.[1] The agricultural [161] population grew[2] from 3,318,235 in 1944 to 4,381,816 in 1953. Only 24.7 per cent of the land in Formosa is arable.[3] As is always the

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1. Taiwan Agricultural Yearbook, 1954 Edition, compiled by the Provincial Department of Agriculture and Forestry, Taipei, October 1954, p. 1.

2. Ibid., p. 25.

3. Ibid., p. 8. The total area of Taiwan Province, including the Pescadores and adjacent small islands, is 3,707,658 chia (or 35,961 square kilometers) and the total area of public and private cultivated land is 903,273 chia (or 8,082 square kilometers) in 1953. (Chia is the unit of measurement of land on Formosa; one chia is equal to .9699 hectare or 2.3968 acres.)

IV. TAIWAN AND KOREA

THE HERITAGE OF THE JAPANESE EMPIRE

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The preceding chapter showed that although the population problem of Japan Proper is clear-cut, its solution is conjectural. It is the problem of population growth from a current 80 million to a future 100 million or possibly 125 million. It is the problem of an industrial people too numerous to subsist on the products of their own land. Demographically, the Japanese people are in midtransition from the familial values of the rice lands of Asia to the individual values of a Western urban milieu, i.e. from mortality-dominated to fertility-controlled rates of population increase. The Japanese Empire bequeathed more than 80 million Japanese to a land and a culture ill-prepared to maintain them. It also stimulated population growth in all the conquered areas without developing the material base to sustain such growth or the psychological changes to terminate it. Taiwan had 2.6 million inhabitants in 1896 and 5.9 million in 1940. Korea had 14.8 million in 1912 and 24.3 million in 1940. The subject peoples of the Empire as a whole numbered 21.8 million in 1920 and 32.1 million in 1940, an increase of over 10 million or 48 per cent within 20 years.

The process that generated this growth was the same throughout the Empire: the decline of mortality within a social and economic setting that preserved intact the high fertility of the peasant East. This was a necessary by-product of political control and economic development. Today's people, whose numbers have already doubled or trebled, still face a long period of growth checked only by mortality.

Asian imperialism had its positive aspects. The defeated Japanese left to their former colonies the improved agriculture, the incipient industrialization and the roads, railroads and buildings in which the forced savings of the Empire had been invested since the initial conquest of Taiwan. The Japanese also left great university plants to which some "natives" had gone, a more widely diffused literacy than that prevalent elsewhere in the Far East and a substantial number of workers with industrial experience.

The peoples temporarily united under the rule of the Japanese had long histories behind them. They face divergent futures. The Japanese period was an interlude, but the political domination was so complete and the

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development plan so uniform that similar demographic consequences resulted from the occupation and similar population problems plague the future. Moreover, for the period of Japanese rule there are censuses and vital statistics of unusual accuracy, for Japan's statistical system was always among the paraphernalia of her export. Hence it is possible in each instance to secure a minimum picture of the population when the Japanese came, to trace its expansion during their rule and to assess the magnitude of the population problem bequeathed to the future.

The description of the demographic impasse of Taiwan precedes that of Korea, for Taiwan is a striking demonstration of demographic principles and problems. Its Chinese people contributed the labor force for the most successful of Japan's colonies. As death rates dropped lower and lower, the population increase approached that geometric pattern which Malthus believed to be the potential of human reproduction. A long series of censuses and vital statistics document this expansion of a Chinese people under almost optimal conditions for population increase. An analysis is sobering, though, for there was only China's ancient pao-chia system to record the demographic aspects of the fluctuations in economy, public health and political cohesion that followed the Japanese withdrawal and the re-establishment of Chinese suzerainty.

177 Polynesian peoples inhabited Taiwan for centuries, and perhaps for millenia, unable to develop any effective political organization but sufficiently warlike to prevent the infiltration of peasants from the Mainland. In the sixteenth century the Portuguese came to the Ilha Formosa but did little more than give it the name. The Dutch, who ruled from 1624 to 1661, reported an immigration of Chinese sufficiently strong to be troublesome. This was a period of crisis in China, for the Manchus had replaced the Ming Dynasty in the North and were pushing southward. The exodus of Ming civilians and soldiers across the narrow waters to Taiwan increased until there was a sufficient concentration of strength to capture the Dutch fortresses. In 1683 Taiwan became a district of Fukien Province, a tiny segment of the great Empire of the Manchus.

161 177 The patterns of demographic and economic development that made modern Taiwan evolved in the two centuries of Manchu suzerainty. Population growth was appreciable as immigrants from the crowded provinces of Fukien and Kwantung re-enforced the natural increase of the earlier settlers. By the latter part of the nineteenth century, when Japan had awakened from seclusion and was ascertaining the areas available for Empire, Taiwan was considered a prize worth acquiring. Three million Chinese peasants were occupied in the production of rice, sugar, camphor, oilcake and other tropical products. "Incidents" occurred, war ensued and the Treaty of Shimonoseki gave Taiwan to the Japanese in 1895.

ECONOMIC DEVELOPMENT

177 433 The economic development of Taiwan required the expansion of health and sanitary facilities that would permit the residence of Japanese and guarantee the expansion of a cheap and docile labor force to produce the agricultural surpluses that were the goal of conquest. The achievement of military and, ultimately, civilian control necessitated roads and transport facilities. These were built before products were available for movement to the coast and shipment to Japan. The cultivated area was expanded, great irrigation systems built, techniques improved, more efficient varieties of rice and sugar developed and fertilizers introduced. Numerous agricultural experiment stations insured the necessary research, while hundreds of Japanese men in the field supervised the productive process from the initial preparation of the soil to the final processing and marketing. The Chinese had

only to furnish their labor and then to give from their limited incomes to pay for the increasingly heavy fertilizer input that insured heavy yields three times a year from the same land. Taiwan was thus transformed into a garden island where only the most venturesome of weeds could grow. Increasing quantities of rice, sugar and tropical products were transported northward to meet the growing food deficits of Japan's increasing population.

PUBLIC HEALTH AND MEDICAL CARE

The Sanitary Bureau of the Police Department was the authority in public health. Administration and enforcement were supported by police power. In the prewar years there were about 2,000 qualified doctors. Many others were trained in Taiwan and given local licenses. At the end of the war there were some 5,000 to 6,000 local doctors, or almost one per thousand population. Since public posts and private practice were limited, many of these doctors were unemployed. In 1948 about 3,000 physicians were registered as engaged in private practice or public service. There were about 800 nurses and numerous midwives. In both these groups the majority were substandard in grade. The number of hospital beds included approximately 1,000 in the capital and perhaps 6,000 on the Island, most of them in small units. In 1948 effective hospital capacity was less than half this prewar level.

Under Japanese control plague was eliminated and cholera and smallpox became rare, although the last two recurred in 1946 to 1947. Tropical diseases are common, malaria in particular. The Japanese had a special malaria service, based on extensive blood examinations, which administered quinine to positive cases. By these means 30 to 40 per cent of the people were examined annually and malaria mortality was reduced by treatment. This suppression improved the health record temporarily, but it did not contribute to permanent amelioration. The program has since been largely discontinued.

THE INCREASE OF THE POPULATION

Population increase paralleled economic expansion. In 1905 there were 3.0 million people on the Island; in 1940, there were 5.9 million. Population thus increased 93 per cent in this 35-year period and virtually all

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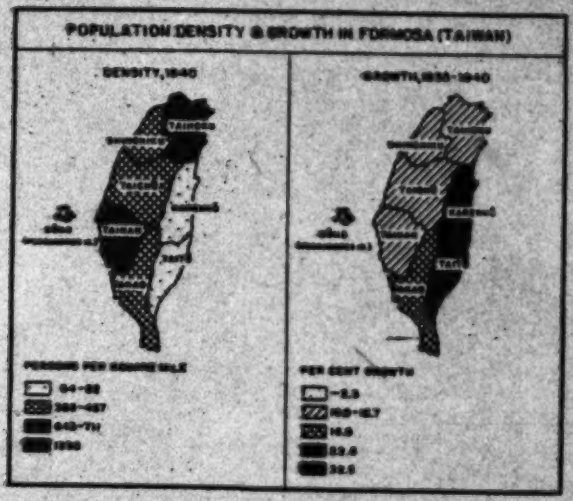

Taiwan, Population Density (1940) and Growth (1935-1940)

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Peasant Scene in Southern Taiwan

this growth was due to the natural increase of the Chinese people. Density of settlement increased to 378 per square mile of total land area in 1935, and to 434 in 1940. This was a high density in a country where 70 per cent of all gainfully occupied men were in agriculture and cultivated land was limited to the river valleys of the northern tip and the fertile areas facing China. Industry was limited largely to the processing and transportation of agricultural products until the war preparations of the Japanese induced rapid industrialization and urbanization in the middle and the late thirties.

In this economic development, Japan's main interest lay in agricultural commodities which enabled her to be less dependent on sources outside of the Empire. The Japanese occupied the major administrative, technical and managerial positions while the Chinese comprised the farmers and the unskilled laborers. The latter were maintained in relative isolation from the outside world with minimum possibilities for economic or cultural advancement. However, an increasing proportion of the children of the Island received elementary education and some even received a secondary education. A select few attended the Imperial University in Taiwan and went on to study in Japan. This cultural leaven was Japanese-oriented to a degree far beyond linguistic adaptation. In fact, the Japanization that had been in process of slow evolution since the initial conquest became a firm policy of forced cultural assimilation by the late thirties.

Here was a classical experiment in the potentiality of the Chinese peasant to reproduce his numbers under favorable conditions. Famines were eliminated and food available for subsistence increased in amount. Epidemics were controlled and the effects of endemic diseases were mitigated. All forces conspired to preserve and to sustain life in so far as possible with known technologies and at minimum cost. The same economic and political ideology insured the continuation of high birth rates. The familial values which had insured survival throughout the millenia in the rice lands of the Mainland were preserved in the isolated peasant villages of Taiwan.

THE DEATH RATE

The demographic paradox of colonialism appeared early in Taiwan. A combination of forces produced a decline in the death rate without either a concomitant or a delayed decline in the birth rate. Recorded death rates

481 Chen E-4 (no date) 1968 ADI Formosa ADI

POPULATION GROWTH AND SOCIAL CHANGE IN TAIWAN

CHEN SHAO-HSING

The original title of this paper was "Population Change and Social Change in Taiwan". Owing to the limitation of space, it had to be divided into two parts. With the consent of the author, the first part is being printed under the above title; the part on population change will be printed in next number.—Editor.

I. INTRODUCTORY REMARKS

1. *Significance of the Study of Taiwan's Population.*

As universally admitted, the population problem is one of the most important problems of the present world. Since one fifth of the world population is Chinese, the study of Chinese population is an urgent task. But, sorry to say, we still have no population census, and though there are some population statistics, all are fragmentary and only for a short period of time. Because of these circumstances, "Taiwan is the only place where it is possible to study the processes of change of a Chinese population over a substantial period of time on the basis of excellent data" (Notestein's preface to G. W. Barclay's Colonial Development and Population in Taiwan, p. v. See No. 1 of the main references enumerated on the last page of this paper. Hereafter, the quotation will be abbreviated as follows, 1: p. v.). The study of Taiwan's population will tell us how a part of Chinese population has changed under a specific set of circumstances, and thus enable us to estimate the potential population change in China. This is the reason why the several millions of people on this little island are worthy of our consideration.

2. *Characteristics of the Data of Taiwan's Population.*

In order to promote an effective colonial administration, the Japanese started complete surveys of land and population in the early years of their occupation of Taiwan. During the half century of Japanese occupation (1895–1945), there were population figures of the whole island for 48 years from 1896 to 1943. The statistics from 1905 to 1943, that is from the year when the first census was taken to two years before the Japanese surrender, are especially trustworthy, judged by G. W. Barclay as "complete" and "correct", and Taiwan's statistical system was "a paragon even among those of the technologically advanced nations in the world" (1: p. 145, p. 164). For administrative reference, the population of Taiwan was registered according to different ethnic stocks, and by this we can trace the change of a part of the Chinese population under certain specific circumstance. The subject of this paper is not to treat the population of Taiwan as a whole, but to analyze how a part of Chinese population has changed in

48: Chen E-4 (no date) 1955 AD1 Formosa AD1

Taiwan[1].

Before the Japanese occupation there was frequent migration between the China mainland and Taiwan. After the Japanese occupation, the fundamental policy of the colonial government was to cut off the relation between China mainland and Taiwan. Thus the entrance of mainlanders to Taiwan and the departure of Taiwanese to the mainland was strictly controlled. After the restoration of Taiwan to China in 1945, especially since 1949, many people came to Taiwan from the mainland, and the populations factors have changed greatly. During the half century of Japanese occupation the Chinese population in Taiwan was a "closed" population (1: p. 12), its change was almost wholly caused by natural increase, and the influence of migration was insignificant. It seemed that Taiwan was kept as a laboratory for experimentation on Chinese population change, and this is a very valuable condition from a demographic point of view.

Besides dependable data of population statistics, there are statistical data of administration, industry, communication and transportation, hygiene, and education, etc., which will enable us to trace the interrelation of population change and social change. Usually, statistical records begin after a society has attained some degree of development, and the data of the initial stages of modernization are not easy to find. Besides, neglect of birth and death registration is unavoidable in early statistics. Thus even when there are statistictical records, dependable data are hard to get. Taiwan is an exception in these points. Since statistical records were taken by the colonial government under strict police control, dependable statistics from the initial stages of modernization are available, which will enable us to make a study of a complete processes of population change and social change. "It is", as pointed out by Notestein, "if not the only case, then certainly one of the very few cases in the world" (1: p. v.).

Social change in western Europe took place from within, developed by inner necessity, and the change was from the base to the top. Social change in Taiwan was different from this, as pointed out by G. W. Barclay. In Taiwan the Change was started and pushed by the colonial ruler. It was passive in character, and was from the top to the bottom. There are many areas in the world which were occupied as colonies in former times, and their social change shows the same trend as that of Taiwan. The study of social change in Taiwan will help us to understand the colonial type of social change.

By the time of the Japanese occupation (1895), the islands of Taiwan and Hainan had about same size of population, around two and a half million. Fifty years thence, the population of Hainan remained almost the same, but the Taiwanese population had

Note 1: Hitherto the population of Taiwan was treated as a whole in most articles and books. In a paper by the present writer: "Sociological Study of Mortality in Taiwan", published in 1947-48 (main references, No. 6), a different standpoint was adopted, Chinese population in Taiwan was the subject of the analysis. Two books by G. W. Barclay published in 1954 also adopted the same standpoint.

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161 increased one and a quarter times[2]. What is the ...on for the remarkable contrast between these two islands? It is an interesting and significant problem, and the analysis contained in this paper should shed some light on it.

II. POPULATION GROWTH IN TAIWAN

162 ### 3. *Ethnic Composition of Taiwan's Population.*

As soon as the Japanese occupied Taiwan, they started a survey of the population, and as early as 1896 there were population figures of the whole island. Though the figure was not accurate enough, it was not incompatible with figures obtained by the first census in 1905, and we can say the survey was fairly dependable. In October, 1905, the first census was taken, and an accurate figure of total population was obtained for the first time. The total population was 3,123 thousand, 94% of it was Taiwanese (that is Chinese in Taiwan, transfered to Japan by the Manchurian government), 0.26% was the mainlander (that is Chinese who came to Taiwan after the Japanese occupation, and who were treated as overseas Chinese by the colonial government), 3.62% was aborigine, 1.90% was Japanese. The total population of Taiwan from 1896 to 1943 by ethnic stocks is given in table 1. During this period, the proportion of Taiwanese was always more than 90%.

Table 1, A: Taiwan's Total Population and its Ethnic Composition, 1896-1943.

Year	Total	Taiwanese	Mainlander	Aborigines			Japanese	Korean	Other Foreigners	Taiwanese Computing Population	Taiwanese Static Population	Total Computing Population
				Total	Living off Reservations	Living on Reservations						
Column	1	2	3	4	5	6	7	8	9	10	11	12
1896	2,587,688	2,577,194					10,584					
1900	2,846,108	2,707,322	5,163	95,597			37,954		75			
1904	3,079,682	2,915,584	5,917	104,334			53,305		92			
1905	3,123,302	2,942,366	8,223	113,196	36,752	76,443	59,618			2,979,018	3,055,461	3,046,889
1910	3,299,493	3,064,498	14,840	122,106	41,724	80,382	98,048			3,106,223	3,186,605	3,219,111
1920	3,757,833	3,436,071	24,836	130,310	45,762	84,548	166,621			3,481,833	3,566,281	3,673,290
1930	4,679,066	4,259,523	46,691	140,553	54,399	86,154	232,299			4,313,922	4,400,076	4,592,912
1940	6,077,478	5,523,912	46,190	158,321	62,386	95,935	346,653	2,299	935	5,586,296	5,692,232	5,981,543
1942	6,427,932	5,827,867	50,429	162,031	63,991	98,040	384,847	2,692	765	5,891,848	5,999,888	6,329,692
1943	6,585,841		52,020			100,397	397,090	2,775	89	6,033,470	6,132,967	6,485,444

Figures of 1905-1930, column 3 included the figures of other foreigners (col. 9). Before 1930, Korean (col. 8) was included in Japanese (col. 7).

Data: 1896-1904, from 13, No. 8: Table 31; 1905 after, from 14.
Column 1, 3, 7, 8, 9, 11 from 14: Table 45; Col. 2=11-4; Col. 4, from 14: Table 53; Col. 5=4-6; Col. 6=11-10 (The figures of Col. 5 and 6 can be found in "Household Registration of the Aborigines", published by Government-General). Col. 10, 12, from 14: Table 96.

Note 2: BAKER, J. E.: The Balance between Population and Production. Pub. by Chinese Association for the United Nations, 1951.

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The population figures of Taiwan are sometimes confusing. Often we can find different figures of total population or Taiwanese population for the same year. This table will clear up the confusion. From the administratrative point of view, those people living in Taiwan and with Japanese nationality were registered as Taiwanese. This is the figure of col. 11; in fact, it is the total of Taiwanese and aborigines (11=2+6). The figure of Taiwanese (excluding aborigines) was enumerated in earlier statistical records, but was dropped out after 1905. Strictly speaking, the figure of Taiwanese in col. 2 still included some acculturated aborigines. In the seventh census of 1940 for instance, the number of acculturated aborigines was 58,160. Though the larger part of the aborigines were living in the reservations, some of them were living outside of the reservations. The former were comparatively backward, and their vital statistics were rather incomplete, and thus were omited from vital statistics. According to the inclusion or exclusion of aborigines living in reservations (col. 6), there are two kinds of population totals: when col. 6 is included, it is the total static population (col. 1); when col. 6 is excluded, it is the total computing population (col. 12). As aborigines were included in Taiwanese population in statistical records, there are also two kinds of totals for Taiwanese population: when col. 6 is included, it is the Taiwanese static population (col. 11); when col. 6 is excluded, it is the Taiwanese computing population (col. 10).

Table 1, B: Index of Increase of Taiwan's Total Population and its Main Ethnic Groups, 1895-1943.

	Total		Taiwanese		Main-lander	Aborigines			Japanese	
						Total	Off Reservation	On Reservation		
1896	100.00		100.00						100.00	
1900	109.98		105.02		100.00	100.00			208.88	
1904	119.01		113.14		114.67	108.12			804.30	
1905	120.69	100.00	114.10	100.00	159.36	118.40	100.00	100.00	863.28	100.00
1910	127.50	105.64	118.91	104.15	267.59	127.72	113.52	105.15	926.37	164.48
1920	145.21	120.31	133.59	116.78	481.31	136.31	124.51	110.60	1,574.27	279.49
1930	180.82	149.81	165.36	144.77	904.86	147.02	148.01	112.70	2,194.81	389.64
1940	234.86	194.58	214.34	187.74	885.15	165.61	168.74	125.48	3,275.34	581.47
1942	248.48	205.80	226.13	198.07	977.30	169.48	174.11	128.35	3,698.12	645.52
1943	254.50	210.88			1,008.13			131.33	3,751.79	666.05

4. Population Growth.

The population growth of the half century under Japanese occupation was tremendous. The total population during the 48 years from 1895 to 1943 increased one and a half times, increased 1.1 times during the 39 years from 1905 to 1943. The increase of Taiwanese population during the 47 years from 1896 to 1942 was 1.26 times, and almost doubled during the 38 years from 1905 to 1942 (cf. Table 1, B). A comparision with

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other parts of the world will help us to understand the implication of the rate of increase. The population of England, Scotland and Wales doubled during the first half of the 19th century, and increased 80% during the second half of the same century. In Sweden, the increase in the same periods were 48% and 47% respectively (16: pp. 12–13). The population of Japan proper almost doubled during 64 years from 1872 to 1935 (19: p. 27). It took half a century for Britain and more than sixty years for Japan to double its population, but only 38 years for Taiwan (Taiwanese population). However we must keep in mind that, the population growth here compared took place in Britain a century earlier, and the size of population compared is markedly different. Thus it is not a comparision under the same conditions, but still the quick population growth in Taiwan is an undeniable fact.

A comparision of population growth during the same period of time will give us a more concrete idea. Population growth of selected countries during 21 years from 1920 to 1940 was compiled by the National Office of Vital Statistics of the United States. A selection of the representative countries from the data with the figure of Taiwanese is given in Table 2.

Table 2: Percentage Change in Total Population Size: Selected Countries, 1920–1940.

Countries	Percentage of Increase	Countries	Percentage of Increase
France	1.0	Korea	40.9
Sweden	7.9	Netherlands East Indies	42.8
Belgium	12.5	New Zealand (Maoris)	42.9
Spain	21.5	Union of South Africa (Non-Europeans)	54.1
Egypt	26.9	Taiwan (Taiwanese)	60.4
Japan proper	30.6	Malaya	65.6
Ceylon	33.8	Honduras	72.0
Mexico	37.1	Dominican Republic	94.9
Panama	39.6	Palestine (settled population)	134.0

Source: 22: p. 11.

There are four areas with an higher rate of growth than Taiwanese, but the rate of natural increase of these areas in 1940 were all lower than the Taiwanese[Note 3], and their high rate of growth was caused by immigration. So, during 1920–1940, from the standpoint of natural increase, population growth of the Taiwanese seemed to be the hightest in the world.

The annual rate of natural increase of Taiwanese was around 2.5% in 1940. Supposing that this rate of increase will continue, then what will be the future population? It will double about every 28 years. It will increase to 450 million within one

Note 3: The rate of natural increase in 1940: Malaya, 20.6 per 1,000; Honduras, 21.0 per 1,000; Palestine (settled population), 20.2 per 1,000; the figure of Dominican Republic is uncertain (22: p. 21). The rate of Taiwanese was 34.0 per 1,000.

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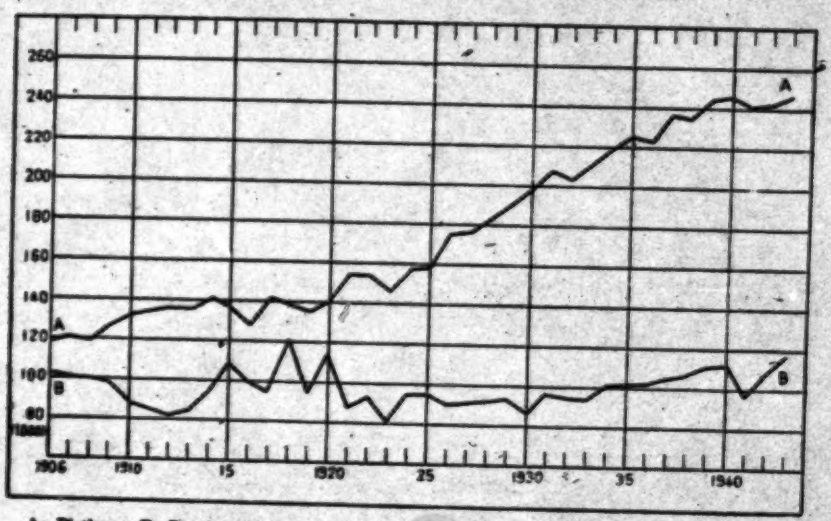
century and a half, and will attain the figure of present world population within two and a half centuries (1: p. 13; 2: p. 45; 4: p. 73-74). As a matter of course these suppositions assume that the present conditions will continue, and that a change of conditions will cause population growth to show another aspect. With regard to the estimation of future population, Sun-Ken Quo has a different point of view based on a different perspective (3).

5. The Cause of Population Growth.

Natural increase and immigration are two causes of population growth. Since the colonial government strictly controlled the emigration of Taiwanese to the mainland and the immigration of mainlanders to Taiwan, migration was quite insignificant for the population growth of Taiwanese, and 96% of its total growth was the result of natural increase[4].

Now, how was this natural increase achieved? From Figure 1 we can see that between 1906 and 1943 the annual number of deaths of Taiwanese did not show any remarkable change, it remained around one hundred thousand. In contrast with this,

Fig. 1: Number of Births and Deaths of Taiwanese, 1906-1943



A: Births B: Deaths

Source, 14: Table 98

Note 4: The total of the annual increase of Taiwanese population between 1906 and 1943 was 3,078,406 (14: Table 48, 3). (The Taiwanese population in 1905 was 3,055,461, the increase between 1906 and 1943 was 3,078,406, and the grand total of these two figures, 6,133,867 was the Taiwanese population in 1943. 14: Table 48, 2 cf. Table 1, A, columns 11 of this paper). Total of the annual natural increase of the Taiwanese between 1906 and 1943 was 2,947,906 (14: Table 98), was 95.76% of the total increase. Total annual increase other than natural increase of the same period was 130,408, and occupied only 4.24% of the total increase.

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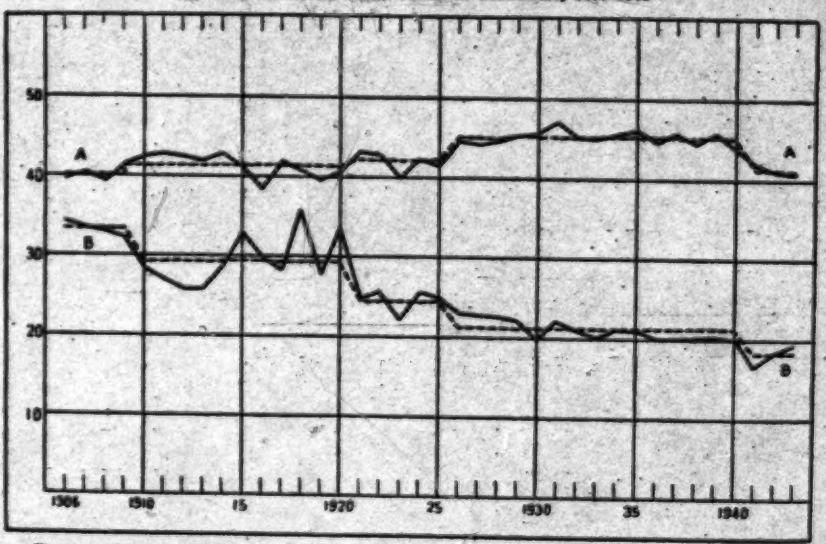
the number of births has increased markedly, it was around 120 thousand by 1906, it had doubled to around 240 thousand by 1943. The number of deaths remained about the same and the number of births was doubled; this was the cause of Taiwanese population growth.

Analyzing the rates of birth and death, the situation will be clearer and easier to grasp. Though the number of births was doubled between 1906 and 1943, the birth rate remained almost the same, around 40 per thousand. Though the birth rate has remained the same, the number of births has increased in accordance with the increase of population. Despite the annual increase of population, the number of deaths has remained almost unchanged. This indicates a decline in the death rate (cf. Fig. 2). The death rate of Taiwanese was 34.4 per 1,000 in 1906, it dropped to 18.4 per 1,000 by 1942, a decline of 16 per 1,000. The birth rate remained almost the same and death rate dropped 16 per 1,000. This is the cause of Taiwanese population growth. The result is clearly shown in the amount of natural increase. The space between line A and line B of Figure 1 represents the amount of natural increase, and the space between line A and line B of Figure 2 represents the rate of natural increase (cf. Table 3). Decline of death rate was the key factor of the Taiwanese population change during the half century under Japanese rule.

Figure 2: Birth and Death Rates of Taiwanese, 1906-1943



Rate per 1,000 population

A: Birth rate B: Death rate (The dotted lines represent the average rate of each period.)

Source, 14: Table 64

6. *Population Change and Social Change.*

From Figure 2 we can observe the trend of the death rate between 1906 and 1943. The graph naturally divides into five periods each with its characteristic type of change

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as indicated in Table 3. The birth rate also shows the same periodical tendency. It is very significant that there is an intimate interrelation between population change and social change in each period, and we even may infer that population change is the index of social change. This will be analyzed in subsequent sections. The average rates of birth, death, and natural increase (Table 3) and main features and changes of each period will be clear from the following table.

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Table 3: Five Periods of Taiwanese Population Change.

Period	I	II	III	IV	V
Years	1906-09	1910-20	1921-25	1926-40	1941-43
Number of years	4	11	5	15	3
Average Birth Rate (per 1,000)	40.25	41.40	42.08	45.24	41.10
Average Death Rate (per 1,000)	33.35	29.37	24.61	21.20	18.23
Average Rate of Natural Increase (per 1,000)	6.90	12.03	17.47	24.04	22.83

First Period (before 1909): Wide spread epidemics and malaria, frequent revolts of the people against the Japanese characterize this unstable period. The birth rate was high (more than 40 per 1,000), but the death rate also high, more than 30 per 1,000 on an average, and the fluctuation was remarkable and frequent. The rate of natural increase was about 7 per 1,000.

Second Period (1910-1920): Epidemics were wiped out by the end of this period, the prevention of malaria had started. The uprisings of the Taiwanese were suppressed around 1915, the revolts of the aborigines were largely mitigated by 1920, and comparative social stability was more or less attained. Political, cultural and social movement of the modern type began for the first time after World War I, and took the place of armed uprising. The Japanese colonial policy had changed somewhat. Birth rate increased slightly, death rate declined to an average of around 30 per 1,000, and the rate of natural increase rose to 12 per 1,000.

Third Period (1921-25): Vigorous cultural and social movement marked this era. This was a period preparatory to the following period of expansion. Transportation was improved, mobility of people increased. Agricultural products and processed agricultural products increased, the productivity was raised, and the consumption of daily necessities increased slightly. The attitude of the people began to change, they began to adopt new ways of life more readily. Use of mechanical facilities gradually increased, and the number of doctors of western medicine exceeded the number of physicians who practiced Chinese medicine. The spread of primary education was promoted. The birth rate increased again, the death rate was 4.8 per 1,000 lower than the foregoing period, and the rate of natural increase rose 5.5 per 1,000.

Fourth Period (1926-40). During this period there was a tremendous increase in the output of agricultural products, attaining the peak production during the Japanese rule. The hydroelectric plant of Sun Moon Lake was completed in 1934, and industry

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161 178 was much promoted by it. Prevention of malaria was successful to a large extent, the activities of preventive hygiene being started by the 1930's. There was reduction in the number of cases of diarrhea, enteritis, and tuberculosis. Infant mortality began to decline. The birth rate rose to a peak, the death rate declined again, and the fluctuations became fewer and of lesser extent. The rate of natural increase attained a peak of 24 per 1,000. Age composion changed, the proportion of infants and children increased markedly.

Fifth Period (1941–1943): The value of industrial products exceeded the value of agricultural products, and the quick tempo of urbanization began. The birth rate began to decline, and death rate continued to drop, to around 18 per 1,000; the rate of natural increase declined slightly. Infant mortality declined further. In comparision with 1906, the average expectation of life of Taiwanese at birth in 1940 was 13 years longer for males and 16.7 years longer for females.

Objectively considered, there were improvements in Taiwan during the half century of Japanese rule; and it is evident at the same time that under the scheme of colonial administration, the improvements were limited in character. The specific character of this social change can be traced in the population data. In order to let her colony carry out its function, in order to make it a good supplier of rice and sugar which Japan urgently needed, various kinds of basic establishments and developments had to be accomplished, such as the wiping out of epidemics, prevention of endemics, basic sanitation, development of transportation, primary education etc. In order to make her colony a good market for manufactured products, the purchasing power and the level of living of the people had to be raised somewhat. But if the "improvement" was pushed too far, it would enable the people to resist and revolt, so it must be kept within certain limits. The Japanese were quite clear on these points, and developed the island within the colonial scheme. The results were successful, even to the extent of Taiwan being called the "ideal colony". Here is the fundamental character of social change in Taiwan. Some data will help us to understand the situation concretely.

161 165 Though the death rate of Taiwanese had declined, its tempo was slow, and still remained very high in comparision with the death rate of Japanese in Taiwan. In the early years of occupation, the death rate of Japanese in Taiwan was tremendously high, but declined quickly and steadily, and with the passage of time the rate was not only lower than in Japan proper, but even attained the level of the most advanced western countries. To take the death rate of 1925 for instance, it was 24.84 per 1,000 for Taiwanese, 20.27 per 1,000 in Japan proper, but was as low as 11.34 per 1,000 for the Japanese in Taiwan. Though it is somewhat higher than Australia (9.2 per 1,000) and Netherlands (9.8 per 1,000), it is still lower than Sweden (11.7 per 1,000), England and Wales (12.2 per 1,000). The age composition of the Japanese in Taiwan was specific, there were more youths and adults in its population, and no doubt this was one of the causes of its low death rate. But even after the difference of age composition was

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corrected, the standardised death rate of the Japanese in Taiwan was 13.34 per 1,000, still far lower than the rate of 20.27 per 1,000 for their brothers in Japan proper[5]. The rate of infant mortality of the Japanese in Taiwan was also comparable to that of most advanced western countries. From this we can see that Japanese in Taiwan were under tremendously favorable circumstances. Their excessive benefits were enjoyed only at the expense of the land in which they lived.

Social change in Taiwan after the restoration in 1945 will help us to understand the character of colonial type of change. Under Japanese rule, manufacturing industry had attained a fair development, but it produced mostly processed agricultural goods or semi-manufactured goods, and finished consumer's goods were mostly imported from Japan. Fertilizer and textiles were two main import items. If the production of 1941 is taken as base, after the restoration, the production of textiles increased ten times and fertilizer increased five times by 1953 (7: p. 36). This is a sign that the economy of Taiwan has outstripped its colonial and dependent character and has become an autonomous system. In respect to education, the enrollment of Taiwanese school age children in primary school had attained 80% by the later years of Japanese occupation, but the secondary and higher education were very poor. After the restoration, if we take the figure of 1937 as a base and compare it with 1953, the growth of the number of students was as follows. Primary school: more than doubled; vocational and normal school: more than three times; middle school: six and an half times; college and junior college: more than eight times; university: more than twenty one times (7: p. 302). In order to rectify the defects of the colonial era, higher education was especially promoted.

The Japanese are no exception to the rule that each nation struggles for its own benefit. Now that the colonial era is at an end, it is our task to analyse the elements of social change in that era. Some useful references for planning of further social development may be drawn from our analysis.

III. SOCIAL CHANGE IN TAIWAN

Some aspects of social change which relate directly to population change, will be discussed in the following section.

7. Political Background

It is self-evident that population growth is deeply influenced by peace and war. The Japanese occupation of Taiwan in 1895 was met with a series of severe revolts. Between 1895 and 1901, the city of Taipei, the capital, was raided twice, the city of Taichung was also raided twice. Other military posts, local governmental offices and posts of military police were raided more than fifty times. A bigger uprising was suppressed in 1902, and after that several years passed in comparative tranquility. An insurrection broke out in 1907, and there were seven revolts between 1907 and 1915. During this period there were frequent uprisings against economic exploitation, as when

Note 5: Tachi, M.: Lecture on Population Problems, Tokio, 1943. p. 201.

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[182] 669 people were forced to sell their land cheaply to sugar corporations. The influence of the revolution lead by Dr. Sun Yat-sen on the mainland was also felt. After 1916, the uprisings were suppressed by a forceful police system. Since 1921 the revolts of the aborigines have been largely mitigated.(6) After the 1920's peace was generally preserved in Taiwan, and the resistance of the people changed gradually from revolt by force to organized political and social movements.

008 Peoples' attitudes are much influenced by peace and war. Disturbances do not give the people the needed security of life and property. They must keep a cautious and watchful attitude at all times. It is impossible to invest the surplus of their production for the extension of their business. They have to exchange the surplus of production for gold and silver, and bury it under the ground for safety. Direct and immediate self-sustainance was their main daily concern, and the idea of future development was unfamiliar to them. This society is approximataly the same as the "militaristic type of society" defined by Herbert Spencer, and no development can be expected from it. In peace time people need not spend their time and energy defending themselves against thieves and bandits. They can concentrate their strength on their work. They can extend their business and gradually plan for the future. Again, we may use Spencer's definition and classify this state as an "industrial type of society". Once established, its development will be accelerated. In Taiwan, after peace and order were established by the colonial government police system, production was extended, and the population gradually increased.

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The various kinds of social change in Taiwan were basically influenced by the colonial policy of Japan. Before World War I the policy was typically colonial. After the war, the spirit of democracy permeated the whole world. In Japan, serious social problems broke out. Democratic and Socialistic movements likewise became widespread. Social movement of the modern type among students and young people broke out in China at about the same time. Under the influence of both China and Japan, political, social, and cultural movements started in Taiwan for the first time around 1920. At first the colonial government tried to suppress them by force, but the current was too strong and the government had to change its policy somewhat. From around 1930, the policy of assimilation was adopted, and there were some improvements in administration. Though the improvement was limited in character, it had a fairly significant effect on Taiwan, and its results were reflected in population data. From [161] 1926 on the system of modern Taiwan was generally molded, and after that date population growth was speeded up.

Japan started her invasion of Manchuria in 1931, intruded in northern China in 1937, and then struck Pearl Harbor in 1941. As the war for expansion was extended, Taiwan was considered a strategic base, and the colonial policy had to change again.

Note 6: Yasuhara, T.: Taiwan under Imperialism. 1929, Tokio, pp. 241-242. Shioni, T.: "Police System and Economy of Taiwan under Japanese Rule". Quarterly of the Bank of Taiwan. Vol. 5, No. 4, 1953, Taipei, pp. 259-261.

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Hitherto the development of chemical production, heavy industry, and consumer goods industries on Taiwan had declined, but now they were earnestly promoted. This gave another impetus to social change.

8. Elimination of Epidemics

After the occupation of Taiwan, two things troubled the Japanese most: the revolts of the Taiwanese and epidemics. One branch of the Japanese expeditionary army landed on the Pescadores on March 21, 1895. By mid-May, fully 1945 people out of 6,190 were afflicted by cholera, and 1,247 died. Another branch of the expeditionary army landed on Taiwan at about the same time and was also stricken with cholera, malaria, dysentry, typhus, pneumonia, and beri-beri. Only one fifth of the total army was free from illness by the end of September (5: Vol. 2, No. 12). During the early years of the Japanese occupation epidemics spread widely, and thus, elimination of epidemics was the first administrative task for the new rulers of Taiwan.

Plague, cholera, and small-pox were three serious epidemics in Taiwan. Plague broke out in Hongkong in 1894, invaded in Taiwan two years later, and had spread to many places during the next twenty-two years. During this time more than thirty thousand people were inflicted, and twenty-four thousand died. It was wiped out in 1917 (5: Vol. 2, No. 12). The activities of extermination and prevention by police power were conspicuous. They included the isolation of patients, destruction and burning of contaminated houses, extermination of rats, quarantine at sea ports etc. Though the means adopted were harsh and cruel, they were effective. Cholera was not as serious as plague in Taiwan. A greater prevalence of cholera occured in 1902, 1912, 1913, and 1920. After 1921 the preventative arrangements were more or less completed and by the cooperation of the people and the public health system, the occurence of cholera could be closely controlled.

During the early years of Japanese occupation small-pox was a serious problem. With the enforcement of vaccination, it began to decline after 1903. Since then, except for a greater prevalence in 1918–1920, small-pox has not been a menance in Taiwan (5: Vol. 2, No. 12).

Plague was wiped out in 1917. Cholera and small-pox were under control by 1920. Since then there has been no serious problem of epidemics in Taiwan. Incidentally, the cattle pest which ravaged Taiwan from 1896 and killed more than forty thousand head of cattle, was also exterminated in 1920.[7]

Whether or not a society is menaced by epidemic is always a significant social fact. We may say that freedom from epidemics is the first step toward modernization. In Taiwan, the course of this change can be traced in the data of population change. Before 1920 the death rate was high, and it also fluctuated frequently, and the extent of fluctuation was great. This is a sign of the uncertainty of life. In fact, living in a society where epidemics constantly spread, one could not estimate in the morning what would be happen before nightfall. Fatalism, such as shown in the saying "man proposes,

Note 7: Animal Resources of Taiwan, published by the Bank of Taiwan. 1952. p. 172, p. 256.

48: Chen E-4 (no date) 1955 ADI Formosa ADI

but God disposes", "Der Mensch denkt, und Gott lenkt", "Der Mensch schaltet, Gott waltet", was fostered under such circumstances. In Taiwan there was a saying: Confucius did not accept an invitation for the next day, since he didn't know whether he would be still alive in the evening or not. Under these circumstances, the attitude of the people is always "looking backward", and planning for the future will be laughed at as utopian. Once epidemics were wiped out, the death rate not only lowered, but its fluctuation became more infrequent and of lesser extent. This is a sign of more stability of life, and thus the traditional fatalism gradually dies out. The attitude of the people changes from "looking backward" to "looking forward", and planning for the future becomes a realistic idea. Ancestor worship and all kinds of cult and ritual are the main concern of people who are always looking backward, but for the peole who are looking forward, the upbringing and education of the younger generation is the most important.

9. Prevention of Endemic Disease

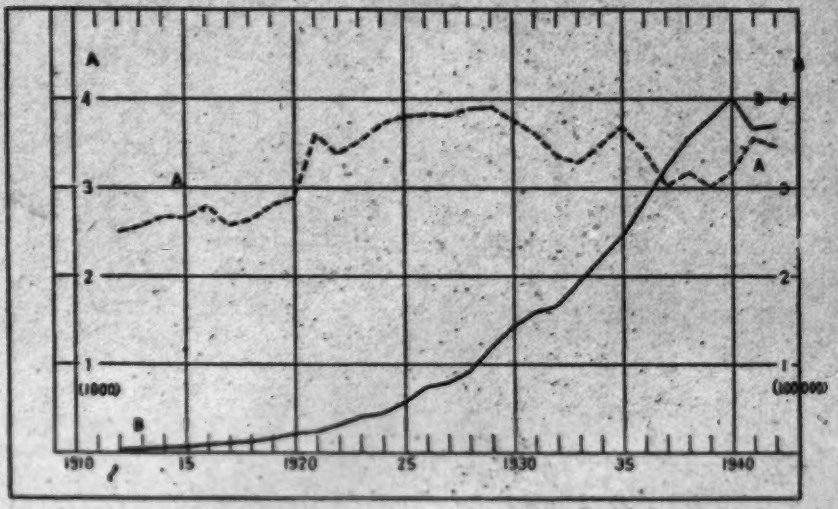
Malaria was the main endemic of Taiwan. Though epidemics are disastrous enough, their prevalence is intermittent, and the extent of their devastation is not necessarily very large. In contrast, malaria creeps in slowly, destroys vitality and attacks human life directly and indirectly. From the time of the Japanese occupation (1895) until 1916, about one tenth of all the deaths in Taiwan were caused by malaria, and during this period it was always the first or second in rank among the leading causes of death. Unaccustomed to the climate of Taiwan, the Japanese in Taiwan had to pay a heavy toll to malaria. In 1899 for instance, one quarter of the total deaths of Japanese in Taiwan were caused by malaria. In 1907, under the supervision of a professor of medicine, prevention of malaria was started by a camphor manufacturing corporation in a village of southern Taiwan, and some results were obtained. Preventative activity by the government-general was started at Peito, a town near Taipei, in 1910. As it was found effective, the regulations for the prevention of malaria were enacted in 1913, and were enforced through the system of police and paochia. The area of prevalence was designated, inhabitants within the area were compelled to have a blood test, and the patients were compelled to take medicine. The use of mosquito nets, drainage, and other sanitary works were enforced. The means adopted were harsh, but the result was good. The malaria death rate began to decline after 1916, considerable improvement has been made since 1925, and as a result the crude death rate was lowered. (cf. Fig. 11).

10. Activities of Preventive Hygiene

The devastation from epidemics and malaria was great, and thus the activities for their prevention were begun first. Some simple facilities for patients of leprosy and mental disease were also provided in earlier years. Other diseases, such as tuberculosis, venereal diseases, trachoma, and parasitic diseases, did not show any serious devastation, and they were not considered as serious problems by the government. The administration in Taiwan was mainly an imitation of that in Japan. What they had

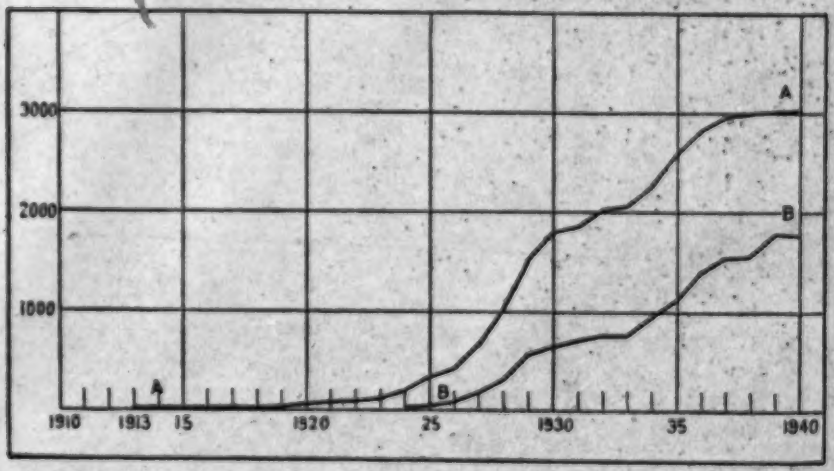
161 During the early years of Japanese occupation,
163 the difference in the rates of birth and death in different localities was remarkable.
165 As time passed, the development of different localities was gradually equalized, so the

Fig. 4 Number of Rickshaws and Bicycles, Taiwan, 1913-1942



A: Rickshaws (unit: 1,000) B: Bicycles (unit: 100,000)
Source, 14: Table 457

Fig. 5 Number of Automobiles and Trucks, Taiwan, 1913-1943



A: Automobiles B: Trucks
Source, 14: Table 457, 465

48: Chen E-4 (no date) 1955 AD1 Formosa AD1

rates of birth and death were more and more equalized. The difference between the highest and the lowest birth rate among different localities was 13.4 per 1,000 in 1906, but had fallen to 8.5 per 1,000 in 1935; the difference between the highest and the lowest death rate among different localities was 32.6 per 1,000 in 1906, but it was only 8.9 per 1,000 in 1935 (see Table 4, cf. 1: p. 169).

Table 4: The Highest and the Lowest Birth Rate, the Highest and the Lowest Death Rate of Different Prefectures of Taiwan in Selected Years (Rate: per 1,000 population)

		1906		1935				1906		1935	
Birth Rate		Whole Province	39.3	Whole Province	45.2	Death Rate		Whole Province	34.0	Whole Province	29.5
	The Highest	Nanto Prefecture	47.7	Tainan Prefecture	48.1		The Highest	Chiai Prefecture	52.9	Taitung Prefecture	34.4
	The Lowest	Yansuika Prefecture	34.3	Taipei Prefecture	39.6		The Lowest	Hsinchu Prefecture	20.3	Penghu Prefecture	15.5
	Differece		13.4		8.5		Difference		32.6		8.9

Source: 10:1906, 1935.

13. *Agriculture and Industry*

To get primary agricultural products and processed agricultural products, especially rice and sugar, which Japan needed urgently, was one of the main policies of Japan in Taiwan. The colonial government had spent much of time and money for the promotion of the production of rice and sugar. They made various kinds of surveys, researches, and experiments, used the system of police and pao-chia for enforcement, and as a result, the outputs of rice and sugar had increased tremendously.

Among the various types of production in Taiwan, agriculture and manufacturing were the two main types, and the proportion occupied by forestry, fishery, and mining was rather small. In 1912, the value of the total output of all types of production amounted to 146,374 thousand yen. Among these, the proportion of agriculture was 63%, manufacturing was 32%, and the total of three other types (forestry, fishery, and mining) was only 5%. By 1942, manufacturing had developed fairly well, its production value had exceeded that of agriculture. The value of the total output of all types of production in 1942 was 1,515,627 thousand yen. Agriculture's share of this was 42%, manufacturing was 46%, and the total of three other types was 12%. Agriculture and manufacturing, the two main types of production, were again represented by rice and sugar respectively. The proportion of the value of rice to the total value of agricultural products was 59% in 1912, and 39% in 1942. The proportion of the value of sugar to the total value of manufactured products was 79% in 1912 and 42% in 1942. Considering these facts, it seems not unproper to take rice and sugar as representative of Taiwan production.

From figure 6 we can see, that in comparision with the increase of acreage of cultivation (line A), the increase in the output of rice (line B) was tremendously high.

52:Barclay S-5 (nodate)1954 ADI Formosa ADI

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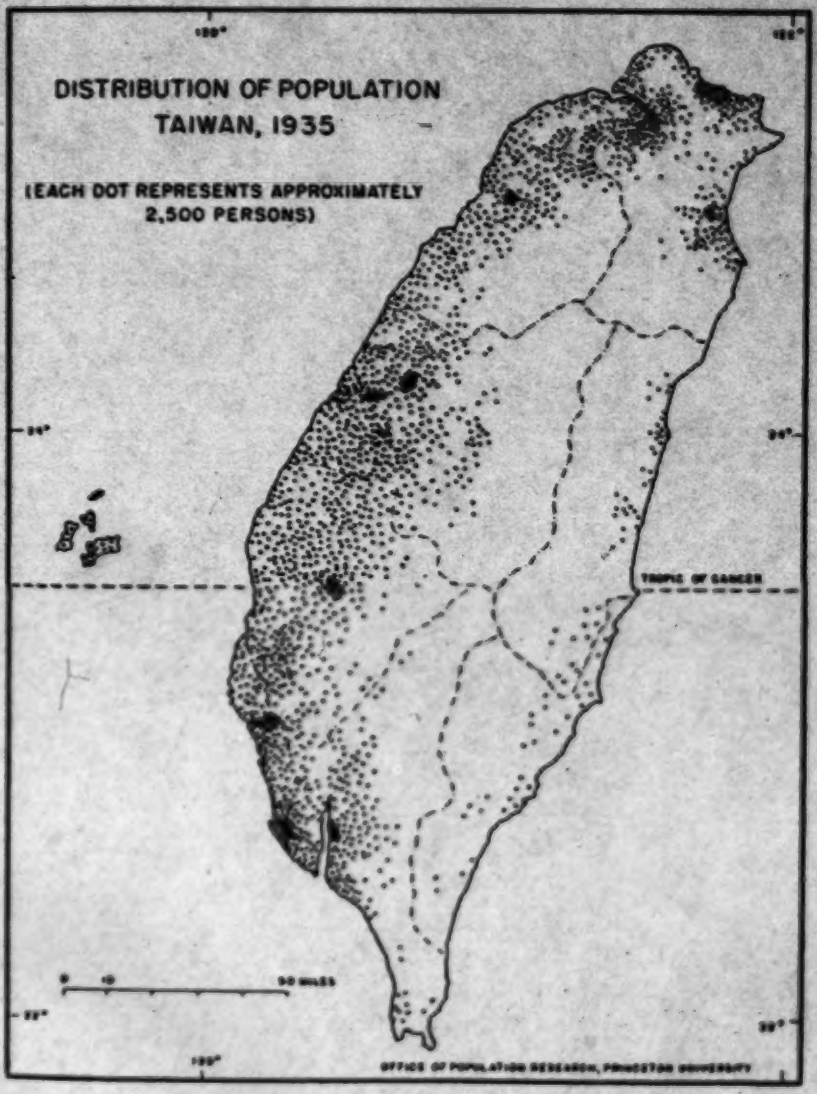

Fig. 2. Distribution of Population in Taiwan, 1935. All nationality groups.

The Japanese and Statistics of the Population

659

The only trustworthy information that we have about the numbers and kinds of people in Taiwan at any time is the evidence of the censuses taken by the Japanese. They conceived and established

52:Barclay S-5 (nodate)1954 AD1 Formosa AD1

659 tually born in Taiwan (see Table 1). Almost none under 25 years
167 of age in 1920, or under 35 in 1930, were recorded as having been
born outside. Some who were older at these two dates had been
162 born in China, but they were very few and were probably living in
Taiwan at the time of annexation. These figures imply that migration after 1895 was probably confined to people who were appropriately registered by nationality, and counted as *aliens* in census enumerations.[8]

Hence the census category of "Taiwanese" was defined so as to exclude migrants to and from the island. This is significant to know, for it means that Taiwanese counted in any census after 1905 were exactly the survivors of those who had been counted before (plus those who had been born in the meantime). It also means that the population of Taiwanese was for statistical purposes a "closed" population—one which neither gained nor lost people by migration. All change in the size of the Taiwanese population was therefore due to "natural increase," or the balance between births and deaths. One can thus speak precisely of population "growth" in Taiwan, without reference to migration as a complicating factor.

Half a Century of Rapid Growth

• 161 The total population, and the sub-total of Taiwanese, are shown in Table 2 as counted on October 1 of each census year, along with the annual geometric rates of growth that are implied at each intercensal stage. Every year showed an increase. The only setbacks were between 1915 and 1920, when the island suffered three near-epidemic attacks of disease. Even over this relatively poor span the average yearly rate of increase was close to one per cent. The original population of 1895 was more than doubled by 1945; when the vital statistics were discontinued in 1943, there were nearly six million Taiwanese.

[8] By evasion of the law some Chinese might conceivably have slipped into Taiwan and passed themselves off as Taiwanese. A further acquaintance with the regulatory system in later chapters, however, will make this appear most unlikely.

There is evidence of another sort that the Taiwanese were not diminished by removals to the mainland. Briefly, detailed testing of the validity of birth and death statistics has shown that practically all persons born in Taiwan were later accounted for in a census enumeration, or as registered deaths if they failed to survive. Practically all who were enumerated in one census were similarly accounted for at later dates. During the 1930's, Japanese permitted small numbers of Taiwanese to leave the island for special purposes. The effect of these departures was very small, and raises no difficulty in dealing with the data of earlier years. Thus, if there was emigration, it too was clandestine and very small.

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THE GROWTH OF POPULATION

TABLE 2

GROWTH OF POPULATION IN TAIWAN

Total Population and Taiwanese Enumerated at Successive Census Dates and Average Rates of Growth for Taiwanese

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Year	Total Population (All Groups)	Taiwanese Population	Per Cent Annual (Geometric) Rate of Growth
1905	3,039,751	2,973,280	
			1.12
1915	3,479,922	3,325,755	
			0.83
1920	3,655,308	3,466,507	
			1.71
1925	3,993,408	3,775,288	
			2.22
1930†		4,218,663	
1930‡	4,592,537	4,313,681	
			2.48
1935	5,212,426	4,882,945	
			2.42
1940	5,872,084	5,510,259	
			2.42
1943		5,962,000*	

* This figure represents the Taiwanese enumerated in 1940 plus their registered natural increase from the census of 1940 to the end of 1943.
† Excluding Aborigine Territory.
‡ Including Aborigine Territory.
Sources: *Statistical Summary*, Table 57.
Census of 1930, Statistical Tables, Table 2.

These figures are significant also because of acceleration in the *rate* of growth, for it increased together with the number of people. Over the entire census period growth averaged 1.76 per cent per year. By 1940 Taiwanese were increasing at close to the rate of 2.5 per cent per annum. Compounded continuously, this latter rate would have enabled Taiwanese to increase twofold every 28 years, and twelve times in a full century.

Natural increase of such dimensions is exceptional. Such growth in itself implies that some change has taken place in the organization of human activities. It necessarily reflects a situation that could not have continued long, and that cannot persist forever. In the world

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161 at large, for example, the increase of people that has populated most of the earth's surface has progressed steadily only in a few centuries of sweeping changes. It has maintained an average yearly rate of half of one per cent, only one-fifth that of the Taiwanese. At their more recent rate of increase, they could supply the entire world's present population in less than 250 years.

Growth at this pace, for all its associated virtues in the saving of life and postponement of death, can be a costly way of expanding the membership of a society. It imposes on the adults the burden of supporting more dependent children than would otherwise be required. Consequently, at any particular time growing populations contain large proportions of young children and infants.

162 The increase of Taiwanese left this kind of mark on their age composition. By 1940, they had passed through 50 years of growth almost unbroken by periods of high mortality. The age structure, both of males and of females, was one that expanded steadily at each lower age to a broad base of infants at the bottom (see Fig. 3). The progression was almost smooth, with few irregularities in between.

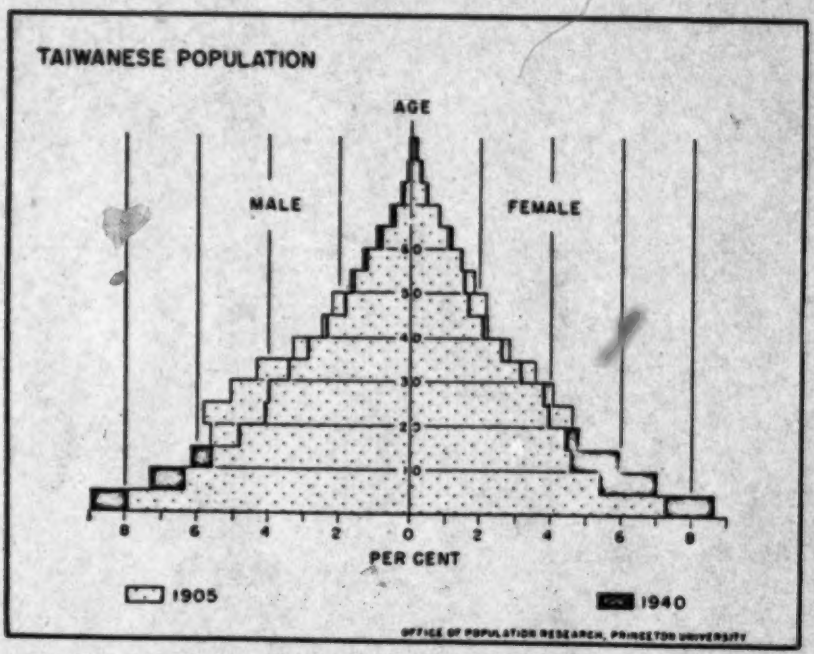

Fig. 3. Age Composition of the Taiwanese Population, 1905 and 1940.

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THE GROWTH OF POPULATION

In 1905 there were only a little more than half as many Taiwanese as in 1940. Their distribution in different ages presumably had not been subject to this past influence of steady growth. It nevertheless had many of the indications of potential expansion. Births were at high levels in relation to the numbers of adults. Through the effects of high and erratic mortality, many never reached maturity.

The inroads of past deaths had been far more irregular and generally more severe than in the population of 1940. As reflected in the dearth of persons from 5 to 20, for example, the turbulence that prevailed in Taiwan from 1890 to 1905 must have taken a heavy toll of infants and young children, and possibly prevented many others from being born. Even so, the population of Taiwanese in 1905 was an extremely youthful one. Provided that the supply of new infants each year would continue undiminished, it needed only an energetic set of measures for the control of mortality in order to produce the growth that ensued.

Because in most census tables "nationality" was adopted to classify the population, the Taiwanese must be considered for most purposes as a single group. It was not, however, a completely homogeneous category. It contained the remnants of the aboriginal inhabitants, and people from many different parts of China. Those of Fukien origin were predominant; their ancestors had made up the largest portion of all the migrants to Taiwan. The majority who reported ancestry in Kwangtung were descendants of the earlier Hakka migrants. These two principal classes of Chinese had begun to mix by intermarriage, which explains the lesser gain in those of Fukien origin by 1935. But during the great natural increase of Taiwanese they both grew almost evenly.[9]

The aborigines had ceased to be an important part of the population by 1905. No longer able to contest the seizure of their lands and destruction of hunting grounds, they had retreated to the mountains of Taiwan where most succeeded in avoiding Chinese influence. It took many years before they were finally subdued by the Japanese. The statistical information about the aborigines is incomplete and cannot be compared from one date to another, and we must all but ignore them in discussing the rest of the Taiwanese. Paradoxically,

[9] Already by 1905 the boundaries between these two groups were less pronounced than they once had been. Separate tables of the population in that year according to principal language spoken showed a certain amount of mixture between the two. The remarkable fact is that they remained as distinct as they did.

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the Japanese undertook primarily in anticipation of long-term benefit, without being able to justify its initial cost for many years. In terms of kilometer-tons of freight carried, the railroad made only partial use of its physical facilities until late in the colony's existence.[32] This sort of schedule was also followed in establishing a system of improved roads and trails over the island. In both cases, Japanese had to bear the burden of ambitious engineering projects when they could least afford it, for basic transportation networks are more valuable as networks than they are piecemeal.

Public irrigation was a project closely tied to agriculture, and followed a different timetable (see Fig. 7). After 1895 there was no large

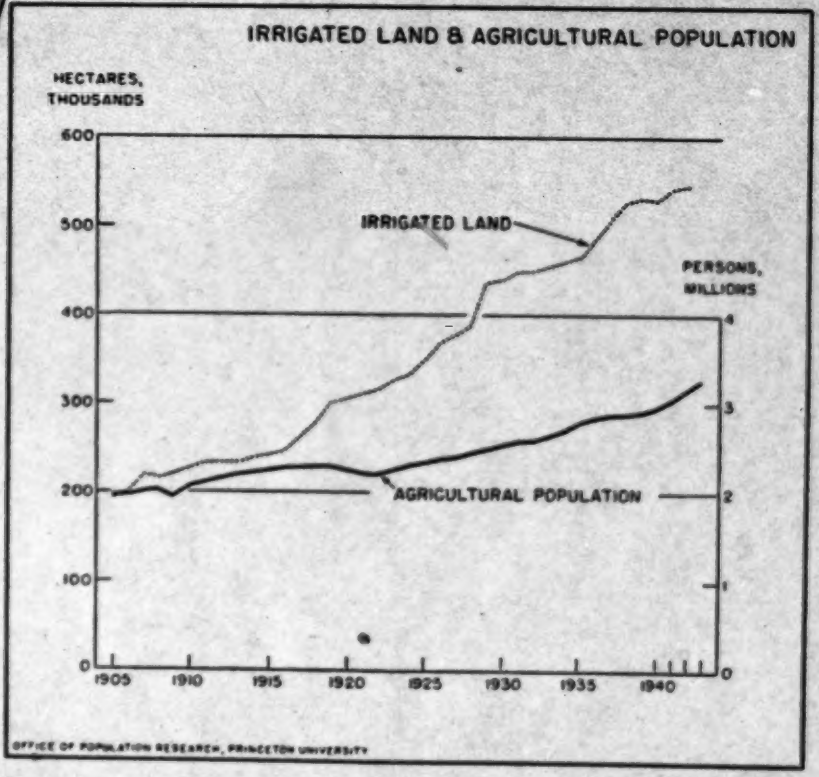

Fig. 7. Expansion of Irrigation and Agricultural Population in Taiwan, 1905-1943.

[32] Then it suddenly became overtaxed with cargo connected with the war, stemming from industrial growth and from Taiwan's role as a military base. See OPNAV, Civil Affairs Handbook, *Taiwan—Economic Supplement* (1944), p. 60.

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tory—was put under special control (though it nominally fell inside some part of each prefecture). This area must be considered as a separate division of the island. Its actual conditions and the quality of its population data are distinct from the remainder. Japanese were secretive about their treatment of the Aborigine Territory, and we have little information about it that is dependable.

These civil divisions were the outcome of some experimentation in government administration. The scheme just described was put into essentially its final form in 1920. Accordingly, most comparisons involving internal boundaries cannot be carried back beyond that year.

161

The Distribution of Total Population and of Migrants

In 1930, the population of Taiwanese was divided among the Prefectures as indicated in Table 19. Data in this form do not readily

TABLE 19

TOTAL POPULATION OF TAIWAN, 1930

By Prefecture, Inside and Outside the Aborigine Territory

(All Ethnic Groups)

	Area of Regular Administration			*Aborigine Territory*		
Prefecture	*Population*	*Density: Persons Per Sq. Km.*	*Density As % of Average For Total Island*	*Population*	*Density: Persons Per Sq. Km.*	*Per Cent*
Taipei	896,380	328.0	141	17,151	9.4	4
Hsinchu	641,479	243.9	105	23,232	11.8	5
Taichung	990,571	279.3	120	24,975	6.5	3
Tainan	1,155,287	233.9	100	4,359	9.0	4
Kaohsiung	601,547	210.5	90	31,772	11.1	5
Taitung	46,182	46.2	20	12,619	5.0	2
Hualien	72,555	53.7	23	14,304	4.4	2
P'enghu	60,124	473.9	204	—	—	–
Total Island	4,464,125	232.7	100	128,412	7.6	3

Source: *Census of 1930, Statistical Tables*, Table 11.

reveal relative concentration and dispersion of people. The real centers of population, if we disregard for a moment the dense settlement in the largest cities, were in portions of Taichung and Tainan

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Prefectures, and in Taipei. A thin belt of level land along the east coast was only freshly settled; people were extremely sparse in the interior region (see also Fig. 2). Separating the Aborigine Territory removes the greatest variation in terrain and land use. On this basis the more populous sections of the island can be roughly distinguished, though only in terms of Prefectures (which were not evenly settled throughout). To facilitate this comparison, the density of total population (per square kilometer) in each Prefecture is expressed in the final columns of Table 19 as a percentage of the density over the entire island with the Aborigine Territory excluded.

One can get a quick glance at the total effects of migration by examining the disposition of people among the smallest civil divisions at two separate dates. This information is prepared, for the years 1920 and 1935, in Table 20. The intervening period covers

TABLE 20

TAIWAN. TOTAL POPULATION BY SIZE OF CIVIL DIVISION, 1920 AND 1935

Excluding the Aborigine Territory

Size of Civil Division	1920		1935	
	Population	Civil Divisions	Population	Civil Divisions
	A. Numbers			
Under 10,000	765,772	116	1,244,749	130
10,000-20,000	1,980,510	141	2,262,691	118
20,000-30,000	409,149	19	606,831	22
30,000-40,000	166,543	5	119,785	3
40,000-50,000	47,921	1	469,151	7
Over 50,000	239,342	2	384,973	2
Total Island	3,609,237	284	5,088,180	282
	B. Per Cents			
Under 10,000	21.2	40.8	24.5	46.1
10,000-20,000	54.9	49.6	44.5	41.8
20,000-30,000	11.4	6.7	11.9	7.8
30,000-40,000	4.6	1.8	2.3	1.1
40,000-50,000	1.3	0.4	9.2	2.5
Over 50,000	6.6	0.7	7.6	0.7
Total Island	100.0	100.0	100.0	100.0

Sources: *Census of 1920, Descriptive Report*, Appendix, Table 8.
Census of 1935, Statistical Tables, Table 3.

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fifteen years of uninterrupted growth in the island's population. This is a short span, but it is the longest one for which appropriate figures exist. Before 1920 the territorial divisions were not the same, and for the census of 1940 no full reports have been published.

Apparently, from Table 20, the fact that there were more people in 1935 made little difference in their mode of settlement. At both dates more than two-thirds of all people (here including Taiwanese and all other groups) were living in places of less than 20,000 in size. Some of the larger civil divisions shifted upward from one group to a higher one; this is to be expected from the mere fact of general population increase. What is surprising is that the biggest cities—and as late as 1940 Taiwan boasted only three larger than 100,000—failed to advance substantially over the rest of the island. Subsidiary centers of less than 50,000 population made the most headway in relation to other places. A certain amount of administrative reorganization enters into these figures, since evidently a few of the minor units were split up into still smaller ones. But these changes were confined to units of the smallest size, and did not encompass many people. Viewed in entirety, migration therefore did not have a marked effect in redistributing the population growth that was in progress among the Taiwanese.[5]

Economic activities had changed so little, however, that migratory movements could hardly have been large. Besides, no large areas of new lands were available to farmers after 1900. Most of the additional space brought under cultivation since that time was converted to agricultural use within the settled area. Expansion of agriculture along these lines did not open opportunities of wider settlement.[6] In the absence of empty lands, there was little for peasant farmers to gain in changing residence unless they also changed their livelihood. In general, if they remained agriculturists it was advantageous also to remain in localities where they were well known, where their families were well established, and where they did not suffer the invidious treatment commonly accorded to strangers.

[5] Differences in natural increase, which might have hidden the effects of some migration in these figures, bore almost no relation to the differences in actual population growth between civil divisions.

[6] The exception to this rule was the rugged east coast of Taiwan. There the authorities brought in "colonists," first Japanese and later Taiwanese, to establish special settlements in the limited plains area for cultivation of sugar and other crops. Though making up a large part of the population later found in this region, this migration was small and of a very special nature.

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TABLE 23

TOTAL SURVIVING MIGRANTS BETWEEN PREFECTURES, AND THOSE WHO WENT TO CITIES*

Taiwanese Enumerated in 1930 Whose Place of Residence Was Different from Place of Birth

	A. By Prefecture of Destination Resident in Prefecture, Born Elsewhere			B. By Prefecture of Origin Born in Prefecture, Resident Elsewhere		
Prefecture	Number Who Migrated	% In-Migrant of All Persons Resident in Each Prefecture	% of the In-Migrant Who Went to Cities	Number Who Migrated	% Out-Migrant of All Persons Born in Each Prefecture	% of the Out-Migrant Who Went to Cities
Taipei	30,191	3.9	38.9	28,665	3.6	19.2
Hsinchu	7,917	1.2	11.7	91,360	12.4	16.3
Taichung	41,287	4.2	12.2	16,569	1.7	20.6
Tainan	31,893	2.9	32.0	19,950	1.8	27.4
Kaohsiung	40,683	6.8	38.6	9,719	1.7	26.0
Taitung	7,415	13.8	—	2,066	4.3	3.4
Hualien	25,650	35.6	—	1,681	3.5	6.1
P'enghu	544	1.0	—	15,570	21.9	74.7
Total Island	185,580	4.3	23.5	185,580	4.3	23.5

* People living in boats are excluded.
Source: *Census of 1930, Prefectural Volumes*, Table 30 in each.

Movement to Cities: The Rate of Growth

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These census materials above all emphasize one important fact: cities were the outstanding recipients of people from the rest of the island. The data regrettably can be used to demonstrate the case in only a limited way. The limitations are, however, of a nature that make this testimony an understatement—the total number of migrants to cities was much larger than merely those who had crossed the borders of a Prefecture. Lacking further data directly for the people who moved, we may find out more about them at their destinations as members of the urban population in Taiwan.

Since these several cities took such a large share of all migrants, they must have grown more rapidly in population than the rest of the island. The Municipalities were only a part of all the cities and towns in Taiwan, for the distinction was one of administrative convenience. Not all had equally developed economic services. They are

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a makeshift way of distinguishing urban places from rural Districts. Many subsidiary market towns, for example, must be overlooked for lack of data.

But in a population that was predominantly rural, these cities were the most "urban," the farthest removed from traditional peasant agriculture. Under the watchfulness of the Japanese, a town could not enlarge its economic importance for the rest of the island very far before it was given regular municipal administration. Hence we may treat them as representing the most extreme departures from rural conditions to be found in Taiwan, and can proceed to find out how far they deviated from the rest.

In 1932, two more cities were raised to municipal rank. The earlier and later population figures for all nine that were Municipalities in 1935 have been sorted out from the respective census reports, and appear in Table 24. It is clear that the cities of Taiwan were not great metropoleis. These nine were the largest, and many Westerners would regard only the foremost among them (Taipei) as being urban. One cannot gainsay their importance to Taiwan: they differed consistently enough from the rest of the island not to be lightly dismissed.

One distinction that is obvious in Table 24 is in the rate of growth. Though the cities varied considerably among themselves, every one increased its Taiwanese inhabitants more than the entire island did. Most cities maintained steady rates of growth, and therefore tended to keep their differences with the others.

The data are condensed and plotted on a logarithmic scale in Fig. 19, so as to contrast the rates of increase of city and non-city Taiwanese and Japanese. The inequalities in growth stand out clearly. Those cities that were expanding more slowly are likewise the ones that had relatively fewer migrants in the data above. They did not outgrow the non-city population by much of a margin, either in Taiwanese or Japanese. The differences in increase persisted over the entire recorded period, and carried over into the later years of accelerated economic growth. Indeed, from these data on population redistribution one could scarcely guess that the tempo of economic life had changed after 1935. Whereas these same cities had held 10 per cent of all Taiwanese in 1920, they contained only 14.7 per cent as late as 1940. For all their growth, cities did not greatly surpass the increase of all Taiwanese.

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TABLE 24

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POPULATION OF TAIWANESE AND JAPANESE IN NINE MAJOR CITIES AT SUCCESSIVE CENSUS DATES, 1915-1940*

	1915	1920	1930	1940	Ratio: 1940/1920
TAIWANESE					
Taipei	98,495	108,107	147,620	221,602	2.0
Chilung		33,692	51,337	69,578	2.1
Hsinchu		28,951	39,361	51,060	1.8
Taichung	18,444	22,250	39,431	64,884	2.9
Changhua		32,810	40,747	54,741	1.7
Tainan	56,297	62,115	76,073	122,173	2.0
Chiayi		31,392	47,615	80,828	2.6
Kaohsiung		27,153	45,288	96,588	3.6
P'ingtung		18,420	28,917	46,961	2.6
Total, All Cities		364,890	516,389	808,415	2.2
Total Taiwanese		3,466,507	4,313,681	5,510,259	1.6
JAPANESE					
Taipei	37,974	45,211	67,687	91,550	2.0
Chilung		11,898	18,541	24,815	2.1
Hsinchu		2,649	5,102	7,504	2.8
Taichung	6,817	8,817	13,214	16,300	1.8
Changhua		786	1,977	2,977	3.8
Tainan	9,708	12,140	14,955	16,654	1.4
Chiayi		5,445	8,575	9,960	1.8
Kaohsiung		8,840	15,437	28,336	3.2
P'ingtung		3,112	4,814	6,747	2.2
Total, All Cities		98,898	150,302	204,843	2.1
Total Japanese		164,266	228,281	312,386	1.9

* Cities not yet formed before 1935 have been reconstituted for previous years according to their 1935 boundaries from the detailed census tables. Cities changed after 1935 have been adjusted to 1935 boundaries.

Sources: *1915 Population Register* } (Both of these volumes contain the census figures for minor civil divisions.)
1920 Population Register }
Census of 1930, Statistical Tables, Tables 1 and 2.
Census of 1940. (Figures secured from the Gazette of the Taiwan Government-General, April 22, 1941.)

Japanese on the whole had stronger preferences for the same cities Taiwanese. But the functions of urban growth were not the same in the two groups. Taiwanese moved to cities as the most promising alternative to farming. Japanese, coming from outside to city and countryside alike, held technical and professional positions in

52:Barclay S-5 (no date)1954 AD1 Formosa AD1

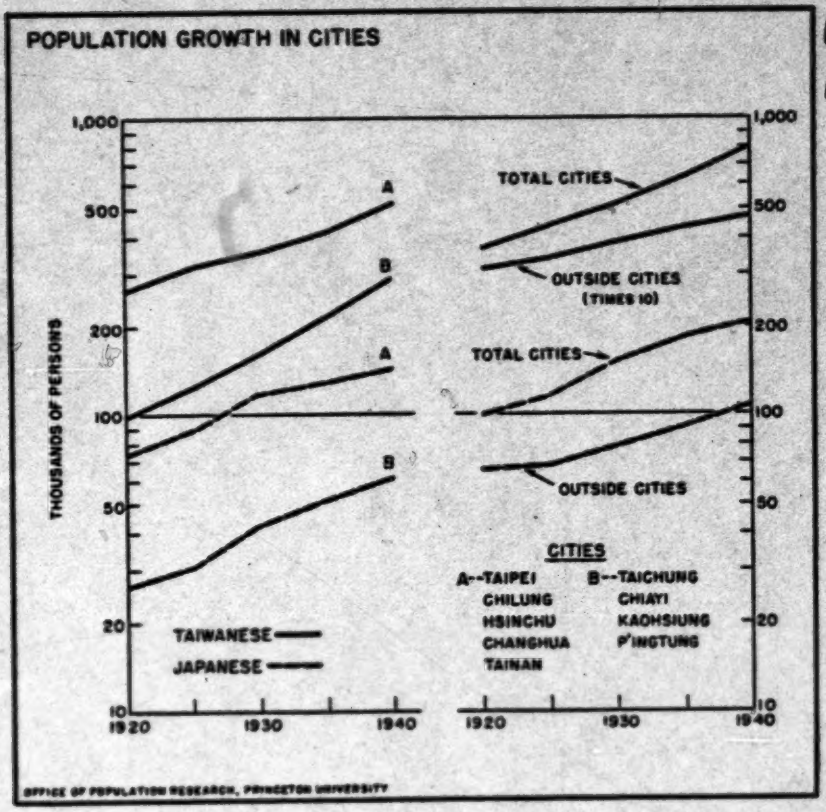

Fig. 19. Growth of Population in Major Cities of Taiwan, 1920-1940. Taiwanese and Japanese.

both places. They certainly esteemed urban more than rustic life; but work of a similar nature was also available to them outside the cities. For them the place of residence had less influence on their type of livelihood.

Ethnic Composition of Cities

The growth of cities depended on only a small part of all Taiwanese to supply the necessary migrants. It was not so with the Japanese. In a sense, the majority of them were migrants, having been born outside of Taiwan. More important, however, nearly two-thirds of all Japanese took up residence in cities and presumably stayed there (see Table 25). They found an urban setting most advanta-

CHAPTER IX

The Fertility of the Taiwanese

JUDGED by appropriate standards, the Japanese made an impressive success of improving health in Taiwan. In less than 50 years they transformed the island from a turbulent and pestilential area into a place where the major hazards to existence in former times were removed. It was a place where the Japanese themselves could live more healthily on the average than their countrymen did in Japan.[1] Measured in any conventional way, mortality among the Taiwanese was sharply reduced. Its decline was as rapid as almost any other contemporary case for which there is a record.

Like the economic program of the Japanese, the health program was carefully designed to function through the society that existed in Taiwan, and not to reform it. Therefore, the policies that made deaths less prevalent in the population did substantially nothing to the incidence of births. The result was the growth of population described in Chapter I, which doubled the number of Taiwanese in less than half a century.

Improvement in mortality would not have had this consequence if it had not been for the high level of fertility among the Taiwanese. Birth rates, as illustrated in Fig. 21, remained about the same throughout this period, fluctuating from year to year, perhaps even rising slightly from the beginning.[2] Though the fertility of Taiwanese was not the highest that has been recorded, and their mortality was far from the lowest, in conjunction these two factors created a natural increase that became as rapid as any yet known.

Steady high fertility produced more than a steady flow of births. While death rates fell and birth rates persisted at former levels, the total annual deaths stayed at almost the same number and the births that occurred each year mounted sharply (Fig. 21). Many people remained living who previously would have died, and thus had opportunity to give birth to children who otherwise would never have entered the world.

[1] See Taiwan, Government-General, Research Bureau. *Life Tables of Taiwan, 1926-1930* (First Issue) (1936). The health of Japanese in Taiwan may appear better than it actually was, for their deaths were not always registered in Taiwan. Many were recorded back at the legal residence of their families in Japan.

[2] The trend takes on a slightly different appearance when measured in different terms, as we shall presently see.

52:Barclay S-5 (nodate)1954 AD1 Formosa AD1

Regrettably there is very little actual knowledge of the early demographic situation in Taiwan that preceded this development. Poor records are most often characteristic of such conditions, for the same factors that stand in the way of promoting longevity also inhibit modernization in other respects. But ignorance of the details need not prevent us from ascertaining broadly what was the state of affairs that formerly prevailed. It is certain, for example, that the early population of Taiwanese regularly suffered heavy attrition by mortality. As late as 1906, at least 35 deaths were still occurring per thousand in the population. If this was the case after ten years of pacification, conscientious civil administration and preliminary sanitation measures by the Japanese, then the usual level of mortality before must have been even higher.

The Taiwanese on the island before 1895 were already a firmly established population, and no longer relied on immigrants to replenish their numbers. In age composition the population was a settled and not a transient one (see Fig. 3). If the decade or so preceding the first census had not presented unusually high risks of death, the age structure would have been almost the same in 1905 as it was in 1940. Even so, it was marked by large proportions of infants and young children, indicating steady and high fertility in the past. Though we have given migration credit for most of the population growth in Taiwan before 1895, there is every sign that fertility continued there at the same rate that was customary on the mainland.

Chinese culture from the earliest known times has been faced with mortality that was proverbially high. As a normal state of affairs, this imposes certain requirements if a population is to continue in existence. For example, barring large migration, enough births must regularly be produced to offset the risks of dying. Failing this, a population would also fail to survive. Prolonged high mortality thus helps to develop social institutions that encourge high fertility.

Sufficient numbers of births, however, are not forthcoming due to this necessity alone. Their supply is ensured in countries of high fertility through elaborate features of social organization. Custom and moral precept in such societies create firm sentiment in favor of the obligations and continuity of family relationships. They furnish powerful incentives to bring forth abundant offspring. There are strong and subtle pressures toward marriage of young men and women. Family life receives great emphasis, and becomes the center of numerous activities that give it additional weight. When a wide

52:Barclay S-5 (no date)1954 AD1 Formosa AD1

161 182 enough range of social functions is carried on in family units, individuals cannot readily participate in the society except as family members. Their contacts with the rest of the society may come to depend on ties of kinship, lacking provision for being conducted on other terms.

Familial institutions have always been one of the most prominent elements in Chinese society. The culture of China is dominated by a morality that systematically urges and abets the production of progeny. We have already seen the by-products of this situation among the Taiwanese. The organization of livelihood, the inheritance of occupation, the immobility of the rural population and the character of migration to cities all reflected the influence of family relationships in the decisions of individuals.

At the same time, events under Japanese rule undeniably altered many of the conditions of life in Taiwan. In fifty years of selective exposure to modern innovations, Taiwanese were showing the effects of this contact, though none of these effects—except the gains in longevity—could be called spectacular. It now remains to be seen whether these developments had created more than superficial social changes, and had begun to exert any influence on fertility.

The Course of Fertility in Taiwan

163 Due to its peculiar nature in Taiwan, the system of vital registration recorded the numbers of Taiwanese births with a high standard of accuracy. Births were registered by the same system as were deaths, which has been described in some detail in Chapter VI. It functioned as part of a more comprehensive scheme of control; this scheme in turn owed its effectiveness to the ingenious way that it was fitted into local solidarities and backed by police power. Since the system recorded deaths accurately and since the figures it helped to compile in census enumerations were practically complete, the tests illustrated in Chapter VI indicate that few live births went unregistered.

By this token the data for births are nearly as valid as were the figures for deaths. In other respects, however, they are less adequate. It is not enough for the study of fertility to know the numbers of births that occurred. The significant event is in reality parenthood rather than the birth itself—we do not search for the motives of a child in entering the world, but of its parents in bringing about the event. Accordingly, some information is needed about the circumstances of birth, and in particular about the characteristics of parents. Though Taiwan's Research Bureau issued copious data each year

1:Gallin E-4,5 (1957-1958) 1966
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121 167 177 178 eastern part of the mainland to Taiwan had been going on for several hundred years, beginning in the 1600's and virtually ending about 1900 when it was almost completely stopped by the Japanese regime. Throughout the early period and even after the Japanese occupation and administration of the island, the traditional Chinese culture brought over from southeastern China was maintained with little major change.

648 179 178 During the Japanese occupation of Taiwan, except for the period just before and during World War II when they attempted to Japanize the island, the government tried deliberately to inhibit fundamental changes in the Chinese culture.[1] As George Barclay (1954b:32) has pointed out, during most of their occupation it was advantageous to Japanese colonialism to maintain the Chinese social and economic order which already existed in Taiwan. It was by means of the traditional Chinese system, which facilitated the maintenance of social control, that Japan was best able to function as a colonial power and to derive the greatest advantage from this area, which soon became an integral economic part of the Japanese empire. Because of this policy of maintaining and utilizing the existing Chinese social and economic system, the fifty years of Japanese rule had limited direct effect on much of the traditional social life of the Taiwanese. This was especially true of the rural agricultural areas of Taiwan, where direct contact with the Japanese was infrequent and where the Japanese had, therefore, limited influence on the cultural level of life. Some superficial changes—religious forms, for example—were in later years forced on the Taiwanese rural people by the Japanese, but they were quickly dropped when Chinese rule was restored at the end of World War II. Today, unlike the situation in the urban centers of Taiwan where Japanese cultural influence was much stronger and is still evident, only few Japanese-introduced traits can be observed in rural Taiwan, and the people attach little importance to them.

However, during the later years of the Japanese period and especially during most of these past two decades under the Nationalist Chinese, the socioeconomic impact on the whole Taiwanese population has been significant. The combination of relatively efficient government, orderliness of life, and public health measures, together with an extensive system of communications on a relatively small island has greatly facilitated rapid population increase on a stable land base and a rapidly increasing growth of urban centers.

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369 Out of these developments, the most significant changes for the rural population have been the extension of village contacts and involvement with urban centers far beyond the immediate village area, and with this an increased spread of urban influences or at least their effects into the rural villages. These increasingly significant extensions

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1:Gallin E-4,5 (1957-1958) 1966
AD5 Taiwan Hokkien AD5
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just north of the Tropic of Cancer—the winters of this coastal area, unlike the interior, are cold and raw while the summers are extremely hot and humid. Winter temperatures seldom fall below the middle forties, but icy winds frequently blow with almost gale force across from the mainland and the Strait of Formosa. Although the area itself never has snow, on a clear January or February day snow-capped peaks of the high interior mountains to the east can be seen from the village.

As in most of Asia, rain is seasonal. Between 80 and 85 percent of the annual rainfall comes during the late spring and summer months (April to September) (Chen, 1950:5).[1] During the heaviest rains and the late summer typhoon season, roads as well as paddy fields are often flooded. In this particular area, frequently the rain alone makes it possible to transplant the rice seedlings, for the irrigation water is often late in reaching the Hsin Hsing area, lying as it does so far from the mountain headwaters. With the passing of the rainy season the weather is relatively dry for the remainder of the year, and all crops depend almost entirely on water from the elaborate irrigation system.

For two decades or more this area has been able to harvest three crops annually. In the irrigated areas two crops of rice are grown; sometimes a vegetable or some other crop is substituted. The third dry crop is usually wheat or sweet potatoes. On dry land, two or possibly three crops a year are grown as well. Such intensive cultivation has been made possible through a favorable climate, irrigation facilities, and an increased availability of chemical fertilizer. It has also come about partially as a result of the population increase, which has provided additional labor to work the available land and to exploit previously undeveloped lands.

Although most of the original inhabitants from the mainland settled on the relatively fertile coastal plain where Hsin Hsing is located, the land resources could not be fully exploited because of their small number. Today, this situation is reversed, and in spite of large-scale irrigation, land scarcity makes it necessary for parts of expanding families, and even whole households, to move to urban centers to find work. Land scarcity in the whole Hsin Hsing area is so severe that even villagers who remain there must go outside the village to earn a livelihood for their families or to supplement the family income. Although the problem may be unusually acute in Hsin Hsing village and in some neighboring villages, it must nevertheless be recognized that it is characteristic of a large part of Taiwan. If the population of the rural areas of the island continues to grow at its present rate, the land scarcity which is now so severe in the Hsin Hsing area will undoubtedly become a major problem for the greater part of the Taiwan countryside.

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With the advent of the Japanese in 1895, Lukang very soon lost its importance as a port, for Japan's plans for the colonization of Taiwan did not include maintaining Lukang as a trade and immigration center. The Japanese set about cutting off the movement of people and goods between Taiwan and the mainland, and, to divert the colony's trade from China to Japan, they built the port of Keelung in northern Taiwan (Barclay, 1954b:12, 18–42). The demise of Lukang both as a port and as a major urban center was hastened by the silting up of the harbor, which had begun even before the coming of the Japanese. As a result of Japanese indifference to Lukang as a port, the harbor soon became unusable.

The final blow by which the Japanese doomed Lukang's importance was the routing of the extensive west coast railroad system far from Lukang. The city could then neither be maintained as a major market town nor as a point of trans-shipment for the area's produce. Its decline as an urban center and as an influence on the surrounding area was reflected in an accompanying population decrease from one hundred thousand in the late eighteenth century to fifty-one thousand in 1954 (*Women te Lukang Chen*, 1954). The decrease took place despite the high rate of population growth in the rest of Taiwan.

Today, Lukang stands several miles from the sea, a city much diminished in size and importance. It offers little economic opportunity for its inhabitants, and despite some light industry, few village people are employed there. Nevertheless, although it is now a small, out-of-the-way city, it offers nearby villagers a convenient local marketplace and a center for some entertainment. Most important, it still functions as a religious center. From the earliest times the Chinese immigrants brought their gods with them from the mainland to Taiwan. These gods and goddesses, such as Matsu, became firmly established as important deities in Taiwan; the Matsu temple in Lukang is believed by the people of the area to be the oldest or second oldest Matsu temple on the island. For this reason Lukang is still one of the most important focal points for the religious pilgrimages of those who maintain loyalty to the Goddess Matsu.

The historical picture of this area at the time of the late Ch'ing dynasty comes from data furnished by older or better educated residents of the area and several local Chinese and Japanese gazetteers.[3] These various sources were used, wherever possible, to corroborate one another. The sources note that in the late nineteenth century the area was sparsely populated and that its inhabitants lived in constant fear of bandits. Up to the early part of the twentieth century dry farming produced most of the staples grown, since there was only a very limited system of irrigation. Crops like wheat, soybeans, sorghum, sweet potatoes, peanuts, a plant used to make dye for cloth, and broom grass were

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the main products. Rice growing played little part in the economy. The almost total lack of irrigation, presumably combined with a high mortality rate, prevented any rapid increase in populati[illegible]re were not even enough people to exploit the land fully.

The present area of Hsin Hsing was at that time the s[illegible] of only a few scattered households. The inhabitants were so few and so weak, and the bandits so many and so strong, that Hsin Hsing and eleven nearby villages formed a mutual protection association. When a village was attacked by bandits, it sounded large gongs as an alarm signal; the signal was relayed from village to village, and the able-bodied men rushed to the aid of the community under attack. The associated villages still maintain an informal organization today, though its function is now the production of a joint annual religious procession (which will be discussed in Chapter 8).

The coming of the Japanese to Taiwan had major repercussions not only for Lukang but for the Hsin Hsing village area generally. Once their rule was established on the island, the Japanese moved quickly to bring about law and order by suppressing the bandits. They eliminated the lawless element from the countryside and brought new security to the village people.

The Japanese also took in hand the extreme complexities of a tri-level land tenure system of landlords, tenants, and subtenants. (See details in Chapter 4.) In order to establish clear property rights and increase the efficiency of tax assessment and collection, the Japanese carried out extensive land surveys from about 1898. In 1905 the "Land Investigation Regulations" were promulgated; they resulted in a greatly simplified land tenure structure which included only landlords and tenants. This basic system is still in force today. Even in more recent years, although the Land Reform Program of the Chinese Nationalist government modified the internal content of the land tenure structure, its form has remained roughly the same.

At the same time, the Japanese gradually extended the irrigation system to serve much larger areas (see *Pu Yen Chuang Yen Ke Chih*)[4] as part of their effort to integrate the colonial area of Taiwan into the Japanese economy. The development of a major irrigation system enabled the agricultural population to expand its rice production greatly, and this rice ultimately became its major export to the Japanese homeland (Barclay, 1954b:18–42).[5]

The expansion of the irrigation system, accompanied by a greater emphasis on agriculture in the area, occurred at about the time that the main impact of the closing of the port of Lukang began to affect the villagers, who thus lost the opportunity to supplement their livelihood by working in the port. The increased irrigation meant that wet-rice could be planted profitably. Wet-rice production demands a

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greater labor force, and this absorbed the men who had formerly worked in Lukang.

The expanded area of land under cultivation increased the food supply and generally improved the standard of living. In addition, the Japanese introduced some Western public health ideas and new means for controlling disease. Apparently, these factors are closely related to the extensive population growth which then began to take place in Taiwan. The Japanese also improved the primitive communication systems of the area. A major program of electrification and improvement of rail and bus lines was instituted throughout the heavily populated areas of the island.

The material influence of the Japanese occupation and administration of Taiwan was enormous. Not only did Japan create in Taiwan an important element of its colonial empire but in so doing it indirectly began to produce important economic changes which had implications for the development of the rural areas and the island itself. While agriculture provided the major portion of Taiwan's exports to the home country, new, imported commodities also became readily available to the Taiwanese villager at low prices; many inexpensive canned foods became common in the village household. In spite of these changes, the world depression had apparently little effect in the Hsin Hsing area. In fact, few villagers were even aware that there was a world depression in 1929 and in the 1930's, which may be due to the almost total lack of industry in rural Taiwan or in Taiwan generally at that time.

The advent of the Japanese brought a higher standard of living for the Taiwanese people, but the improvements were offset by the war with China in 1937 and, more notably, by the entrance of the United States into the war in 1941. Japan had to muster all its own resources and those of its colonies, and good times soon turned into hard times for the Taiwanese farmer. At first, village men were lured off the land to work at high pay on Japanese construction projects, and others were conscripted to work in Japanese army labor gangs in both Taiwan and in Southeast Asia. Often families were left with only the women, children, and old men to work the land. The supply of artificial fertilizer which had been so important in developing intensive rice cultivation was almost completely cut off. The little food that could be produced under these difficult conditions was usually confiscated by the Japanese authorities to supplement the food supplies in Japan, and villagers were frequently reduced to a diet consisting mostly of sweet potatoes. The gratitude they had felt for the prewar accomplishments of the Japanese was offset by the severity of Japanese rule during the hard war years.

The defeat of the Japanese and the coming of the Chinese National-

1:Gallin E-4,5 (1957-1958) 1966
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has brought a change in regime to Taiwan. This is known as the "Restoration." At the outset the Taiwanese people welcomed the change, feeling that the coming of the Chinese represented a reunion with their own "race." With the advent of peace, there was a general return of men to the land. Only one Hsin Hsing villager had been killed in the war in Southeast Asia. The other villagers from Hsin Hsing who had surrendered or been taken as prisoners while working in Japanese labor groups were returned to Taiwan in ships. The return of these men to the land was followed by a general population increase, and in the Hsin Hsing area this quickly aggravated the problem of land scarcity; tenancy became a greater problem than ever before. Families could neither buy nor rent enough land to support themselves adequately, and, in addition, the war period had brought about a significant alteration in local patterns of division of labor. In the absence of the men the women had assumed new roles and responsibilities and had begun to take an active part in the operation of the land. This change was so well established that from about 1948 on it became possible for the men to work elsewhere for periods of varying length to supplement the family's farm income. This was the beginning of a new and ever-increasing trend of mobility to Taipei, a trend not confined to the Hsin Hsing area, although it may have begun there earlier than in most other parts of Taiwan. Some men hired out as farm laborers or worked as itinerant merchants in the area. But it is significant that local industrial development has been so slight that it has offered no economic alternatives to the villagers.

After 1949, when the movement of the remnants of the Chinese Nationalist forces from the mainland to Taiwan was halted, the regime instituted a new policy of government rule and reform. The Land Reform Acts between 1949 and 1953 were the most important aspect of this policy. The Land Reform, the increased availability of fertilizer, the infusion of great quantities of economic aid from the United States, and the great increase of supplementary income from villagers working in Taipei have all contributed to an apparent rise in the Taiwanese farmer's standard of living. But the basic problem of population pressure and land scarcity continues to worsen, affecting both economic and social aspects of village life.

LANGUAGE AS AN INDICATION OF HISTORICAL SEQUENCE

In 1958 there were four main languages spoken in Taiwan: Japanese, Taiwanese, Mandarin, and Hakka. The latter three are usually referred to as dialects of Chinese, but since they are not mutually intelligible, they are actually different languages, and will be referred

1:Gallin E-4,5 (1957-1958) 1966
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Villagers also have relationships beyond the village through economic, educational, and religious activities, and especially through matrilateral and affinal relatives.

THE POPULATION AND ITS ECONOMIC BASE

In 1958, the population of Hsin Hsing village was listed in the census records of the Pu Yen Hsiang office as 657 persons in 115 households.[6] A look at the available population records for Hsin Hsing and the twenty-two villages of Pu Yen Hsiang indicates a rapid but steady population growth for the area, which is in line with the trend in the rest of Taiwan. Population statistics for the village are available only for the period after 1955. Nevertheless, interviews with older people and reference to national statistics indicate that the population of Hsin Hsing village and the surrounding area was sparse in the early part of the twentieth century. There seems to have been a substantial population increase in the relatively prosperous late 1920's and 1930's, and especially in the postwar period after social order had been reestablished. But, apparently starting in the late 1940's and especially in the 1950's, village population growth leveled out as the continuing increase was siphoned off by out-migration.

With regard to the national population growth figures, Barclay notes that "over the entire census period (1905–1943) growth averaged 1.76 percent per year" (1954b:13). In the first two decades of the century the natural increase of the population was about one percent. "By 1940 Taiwanese were increasing at close to the rate of 2.5 percent per annum" (Barclay, 1954b:13).[7] For more recent years the average annual rate of population increase in Taiwan (1953–1956) was 3.8 percent per annum (United Nations, 1957:114–115).[8] The average annual rate of population increase for mainland China for this same period (1953–1956) was 2.2 percent per annum (United Nations, 1957:114–115). Of Taiwan, Barclay writes that "Natural increase of such dimensions is exceptional. Such growth in itself implies that some change has taken place in the organization of human activities" (1954b:13).

This steady rise in rate of population increase cannot be the result of a rise in the Taiwanese birthrate. Over these years the Taiwanese birthrate shows a decline. The prewar birthrates in the 1930's were in the middle forties per thousand persons. In the immediate postwar period, apparently as a result of a continuing high degree of economic and political dislocation, the birthrates dropped to the high thirties. For the first half of the 1950's the rates were again up almost to the middle forties per thousand, but with a falling trend so that the 1957 and 1958 figures show less than forty-one births per thousand persons.

1:Gallin E-4,5 (1957-1958) 1966
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and then hired other people, usually immigrants from the mainland, to cultivate the land for them as their tenants.

As the population increased in the later years of the Ch'ing administration there was increasing pressure on the land, and many tenants began to sublease part of the land to others. These subtenants became the lowest rank in a three-stage hierarchal structure of land tenure (Ginsburg, 1953:26–27, 32–33; Grajdanzev, 1942:72–84; T'ang, 1954: 25–27).

In 1904, nine years after taking control of Taiwan, the Japanese government altered this hierarchal system of land tenure by buying out the original landowner and conferring the rights of ownership on the tenant. When, in 1923, the Japanese applied the Japanese Civil Code to Taiwan, full legal rights were given to the new owner (the former tenant), who was now officially known as "landlord."

This move benefited the original tenant who was given full ownership rights, but it did nothing to improve the lot of the mass of actual cultivators (now tenants instead of subtenants) whose land rent was no lower than before. As a result, "tenancy disputes" became more numerous beginning in 1927. In that year the Japanese authorities encouraged the formation of local associations of landowners and tenants which were charged with the responsibilities of promoting better relations between landlord and tenant, preventing tenancy disputes, and fostering agricultural production (T'ang, 1954:26). Although many such associations were formed, "the question of farm rents was entirely outside of the jurisdiction of these associations. It [the rent question] was not only left unsolved, but there was even a marked tendency for farm rents to keep on increasing" (T'ang, 1954:26).

In 1939, in the midst of the Sino-Japanese war, the Japanese government issued a rent control law which was applicable to Taiwan and Japan alike. This law had little effect in Taiwan because it did nothing to reduce rents; it only stabilized the situation. (See Grajdanzev, 1942:72–84, especially p. 82 for a discussion of the Japanese attempts to deal with Taiwanese land tenure problems.)

Although the farm tenancy system continued, after 1945 the Japanese rent control law of 1939 was no longer enforced when Taiwan reverted to Chinese rule. With the increase in the rural population and the general upset of the island's economy, farm rents began to rise, and demands increasing security and rent deposits were made. Worst of all, in many cases tenants were arbitrarily evicted (T'ang, 1954:25–28).

Tenancy had been a great problem in Taiwan under both the Japanese and the Chinese since landownership was concentrated in the hands of relatively few owners (Klein, 1958:53; see also his Tables 17 and 18). "The high rate of tenancy reflects the great scarcity of cultivable land in Taiwan in relation to the demand for it. Land-

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Hsin Hsing, Village in Change

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In the preceding chapters we have seen how the Hsin Hsing villager, a peasant who was tied to the land and the village community and primarily involved in a basically subsistence type of agriculture, is being transformed to one who is becoming more and more involved in the market economy of the country and who has widespread contacts with an urban way of life. We have seen how such developments are affecting village social organization, community and kinship solidarity, and some of the general patterns of village life. We have also seen that although many features of traditional Chinese culture are still evident in the Hsin Hsing village area (especially in the realm of religion, which continues to be a source of community unity), the impact of increased urbanization in Taiwan in recent decades has brought about important and rather rapid socioeconomic and cultural changes. This has been especially marked in the roles of the village and kinship organizations that were previously the peasants' chief sources of identification and security. We now turn to a description of modifications and changes in traditional values and behavior that further indicate the inexorable direction of change in Hsin Hsing.

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Social change is not new to Chinese society. It has been going on for a long time in Taiwan, as well as on the mainland of China, as a consequence of the continuing process of urbanization. However, the process in Taiwan has been accelerated as a direct result of Japanese rule followed by the present rule of the Nationalist Chinese government.

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Until the early part of this century, rural society in Taiwan had been relatively stable for many years. Population growth was slow, and there was enough land for the people. Members of the economic families had close relationships with the village as a community as well as with their localized kinship groups. As long as communications were poor, banditry a constant danger, and mobility limited, village unity was essential to security and even survival. Cohesive, tightly knit single *tsu* villages were quite powerful and frequently the de facto govern-

1:Gallin E-4,5 (1957-1958) 1966
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ment of the local area. In such villages, composed of a single large *tsu* organization, the *tsu* could virtually control the lives of its member families, unite the entire village population on the basis of common kinship, and thus furnish security to all its members. But even villages like Hsin Hsing, fragmented into many small kinship groups, found their security in complete identity with the village, which made it possible for them to band together and cooperate for mutual security against the everday dangers and problems.

The coming of the Japanese at the end of the nineteenth century saw the introduction of a strong central government which led to an increased orderliness of life. The Japanese also introduced an expanded and efficient system of communications and public health and sanitation measures. These measures, coupled with a stable and secure life, made possible a radical increase in population which became even more pronounced in the late 1940's and 1950's under the Nationalist Chinese government. As all of these developments took place, particularly the maintenance of local order, the ties of the village began to loosen with the loss of its protective function and ability to initiate control beyond its own village boundaries.

In Hsin Hsing (and probably other villages like it), some of the numerous kinship groups began to increase in size and develop into *tsu* organizations as described in Chapter 5. With growth, each group became increasingly concerned with its own sociopolitical influence within the village and even in the nearby area, especially as the former imperative necessity for village unity declined. Thus, Hsin Hsing began to develop into a village with several significant competing *tsu* organizations which started, to some degree, to undercut the formerly necessary coalition of the different village kinship groups. So began the weakening of Hsin Hsing village as a unified community.

As the population increase continued in recent decades, and an already developing problem of land scarcity became even more extreme, it gradually became both necessary and possible for increasing numbers of rural villagers to migrate to the growing cities to find work to supplement their insufficient income from the land. This migration has broadened the villagers' urban contacts and relationships beyond the village. At about the same time, as we have seen in earlier chapters, the villagers have become increasingly more dependent upon and involved with the greater market economy. This has become especially true as patterns of land use have changed in response to all of the changing conditions, so that many villagers are increasingly shifting from what was primarily a subsistence form of agriculture to what is now participation in the market economy of the country. Therefore, there has been an acceleration of the impingement on the village by the outside world.

1:Gallin E-4,5 (1957-1958) 1966
AD5 Taiwan Hokkien AD5
Taiwan AD6
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picture of life rather than ethnographic-type studies of any one area.

During the Japanese period in Taiwan (1895–1945), Japanese police, administrators, and academic researchers also made extensive detailed studies in Taiwan. These works, such as the *Taiwan Szu Fu* (1910–1911), also were usually composite studies. But these more often dealt with specific aspects of Taiwanese (Chinese) life, such as: family, civil law, economics and agricultural processes, religion and magic (frequently viewing the local people as superstitious and backward), and general customs and habits of the Taiwanese. In these studies, the researchers frequently used scattered illustrative material drawn from either the cities and/or the rural areas of Taiwan.

Thus, a number of the Chinese and Japanese studies are generally valuable for providing a picture of early conditions for some general areas and on many specific subjects in Taiwan. They are, of course, also valuable for comparative purposes. Unfortunately, rarely, if ever, do any of them furnish any ethnographic or contextual picture of Taiwanese life for any particular area in Taiwan, and especially not for the area of Hsin Hsing village. This has meant, therefore, that the available material has been of only limited value in the historical reconstruction of life in the immediate area of Hsin Hsing. It is also unfortunate that either during or after World War II, the historical records for Hsin Hsing and its immediate area which, during Japanese times, were usually kept in the district police station were apparently destroyed or lost.

[4] *Pu Yen Chuang Yen Ke Chih*, no author, Ta Chen 15 or 1925, handwritten in Japanese with additions made in Chinese after the war. Found in the Pu Yen Hsiang Public Office. This source notes that in the Pu Yen area only about 600 *chia* of land were irrigated in the early 1900's. But by 1922 there were 2,100 *chia* of land irrigated, and in 1923 another irrigation system, the Er Pao Chen, was added.

[5] Barclay discussed how Taiwan was built up economically as a colonial area of Japan.

[6] Demographic figures for the whole island of Taiwan are based on local statistics from district public offices such as the Pu Yen Hsiang office.

The 1958 village population figures, the most recent ones cited in this section, differ from those 1959 figures used in the material in Chapter 3 on social organization. Figures from the earlier date are used in this section because they are the ones most comparable with the census figures available for the Asiang and all of Taiwan. On the other hand, the 1959 figures were the only ones specific and complete enough to be useful for the breakdown in social organization and family.

[7] These population growth rate figures are for Taiwanese only; aboriginals are not included.

[8] This population growth rate figure is only for Taiwanese and mainlanders in Taiwan; aboriginals are not included.

[9] Based on a discussion in May, 1959, with Professor Chen Shao-hsing, sociologist and demographer at the National Taiwan University. Some of the social factors affecting the birthrate and the trends in population growth will be examined in the chapters on social organization and especially on life cycle.